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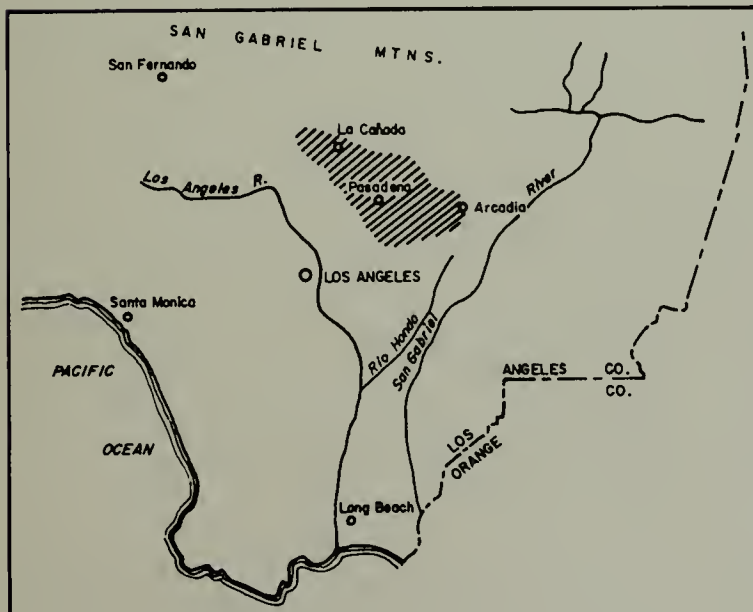


STATE OF CALIFORNIA  
The Resources Agency

Department of Water Resources

BULLETIN No. 178-72

WATERMASTER SERVICE  
IN THE  
RAYMOND BASIN  
LOS ANGELES COUNTY



FOR PERIOD  
JULY 1, 1971  
THROUGH  
JUNE 30, 1972

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AUGUST 1972

NORMAN B. LIVERMORE, JR.  
Secretary for Resources  
The Resources Agency

RONALD REAGAN  
Governor  
State of California

WILLIAM R. GIANELLI  
Director  
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## ABSTRACT

Below normal precipitation and runoff prevailed throughout the entire Raymond Basin area during the 1971-72 water year. As expected, water levels in the vicinity of Arroyo Seco spreading grounds and in the Eastern Unit decreased. No water rights were permanently transferred during the year; however, 45 acre-feet were temporarily transferred in the Exchange Pool. Basin management studies by means of the mathematical model have continued.

Item	1970-71 Fiscal Year	1971-72 Fiscal Year	Percent of change from previous fiscal year
Parties, number of	21	21	0
Active pumpers, number of	21	21	0
Active nonparties, number of	2	2	0
Watermaster expenses	\$ 29,113.84	\$ 26,739.87	- 8
Watermaster expenses, per acre-foot pumped	\$ 0.94	0.87	- 7
Valley rainfall, in inches	17.44	8.35	- 52
Runoff, in acre-feet			
Inflow	8,315	5,408	- 35
Outflow	14,838	6,599	- 56
Spreading operation, in acre-feet	2,807	1,217	- 57
"Decreed Right 1955", in acre-feet	30,622	30,622	0
Extractions inside basin, in acre-feet	30,990	30,561	- 1
Diversions, in acre-feet	5,140	2,473	- 52
Imports, in acre-feet	26,843	30,913	+ 15
Exports, in acre-feet	<u>-11,272</u>	<u>- 9,528</u>	<u>- 15</u>
Net Water Use, in acre-feet	51,701	54,419	+ 5

State of California  
The Resources Agency  
DEPARTMENT OF WATER RESOURCES

Ronald Reagan, Governor  
Norman B. Livermore, Jr., Secretary for Resources  
William R. Gianelli, Director, Department of Water Resources  
John R. Teerink, Deputy Director

### SOUTHERN DISTRICT

James J. Doody . . . . . District Engineer and Watermaster  
Mitchell L. Gould . . . . . Chief, Operations Branch and Deputy Watermaster

Watermaster service in this area was conducted  
and report prepared under the direction

of

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by

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## FOREWORD

The Watermaster presents this annual report as a comprehensive review of water conditions in the Raymond Basin during the past fiscal year. It was prepared for the Superior Court, County of Los Angeles, and for the parties to that certain Judgment made and entered December 23, 1944, in the Superior Court of the State of California in and for the County of Los Angeles. The action is identified as Case No. Pasadena C-1323, entitled "City of Pasadena, a municipal corporation, Plaintiff, vs. City of Alhambra, a municipal corporation et al, Defendants".

The Raymond Basin, established as a watermaster service area under Part 4, Division 2, of the California Water Code, is monitored by the California Department of Water Resources. The basin has been operated for several years under a well-defined management plan, one phase of which limits ground water extractions.

This report covers the scope of the Watermaster's work, conditions of ground water supply, water use, ground water replenishment, variations from guidelines in the Judgment, and a complete financial report for the past fiscal year.



James J. Doody  
District Engineer  
Southern District  
and Watermaster  
Reg. C. E. No. 6500

## CONTENTS

	<u>Page</u>
ABSTRACT . . . . .	2
ORGANIZATION . . . . .	2
FOREWORD . . . . .	3
I.    THE RAYMOND BASIN . . . . .	7
Activities of the Watermaster . . . . .	7
II.   WATER SUPPLY . . . . .	9
Precipitation . . . . .	9
Ground Water Recharge . . . . .	11
Salvage Credit for City of Sierra Madre . . . . .	11
Runoff . . . . .	13
Ground Water Elevations . . . . .	14
Water Well Numbering in the Raymond Basin . . . . .	19
III.  WATER USE . . . . .	23
Ground Water Extractions . . . . .	23
Surface Water Diversion . . . . .	23
Use of Imported Water . . . . .	23
Ground Water Exports . . . . .	23
Nonparty Ground Water Extraction . . . . .	25
Exports of Sewage . . . . .	26
IV.   ADMINISTRATION OF THE JUDGMENT . . . . .	27
Exchange Pool . . . . .	27
Annual Variation in Extraction . . . . .	29
Five-Year Variation in Extraction . . . . .	29
Variations from Safe Yield . . . . .	29
V.    ADMINISTRATIVE COSTS . . . . .	31
Costs of Determining Salvage Credit for City of Sierra Madre . . . . .	32
APPENDIXES	
A:    Mean Daily Discharge at Surface Runoff Stations Operated by the Watermaster, 1971-72 Watermaster Year . . . . .	33
B:    Ground Water Extraction Data for Individual Wells . . . . .	39

## CONTENTS (continued)

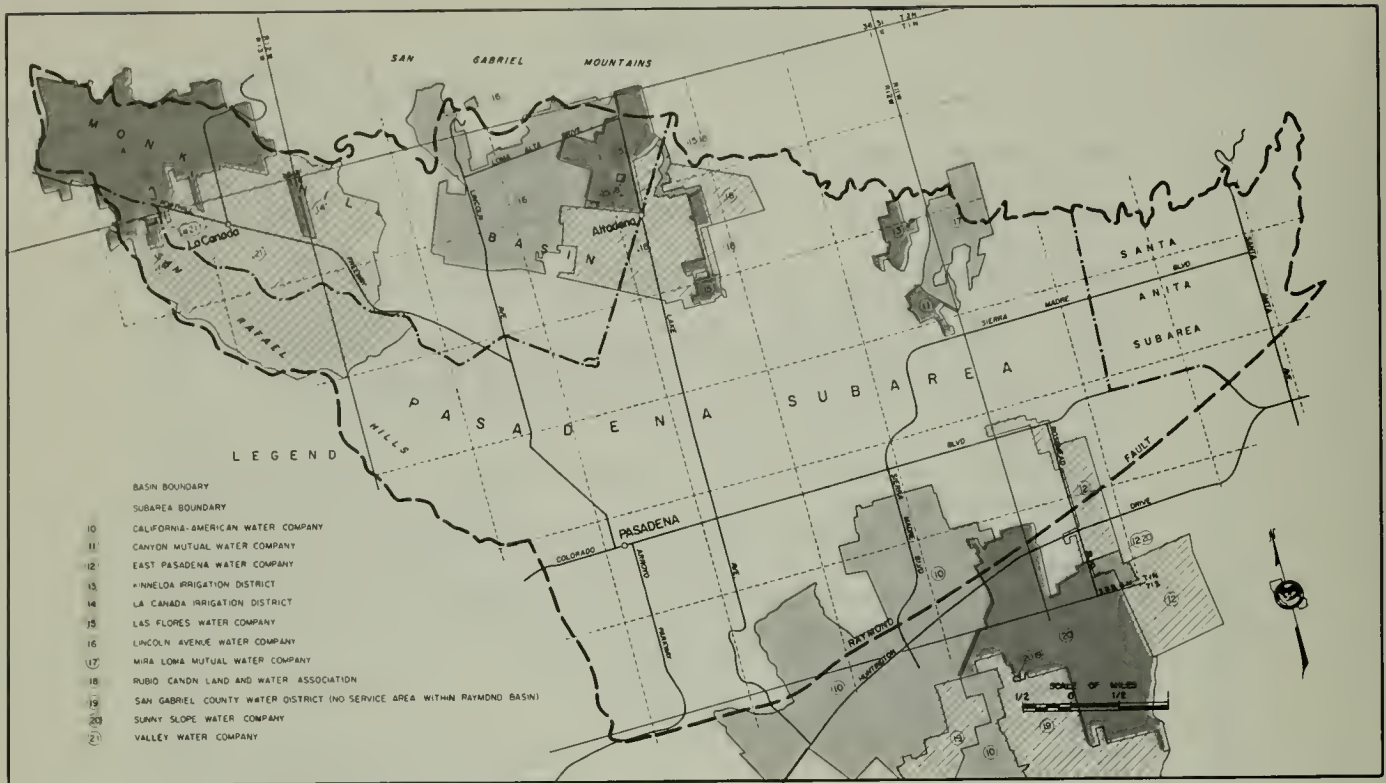
### List of Figures

		<u>Page</u>
1	Water Service Areas of Parties to Watermaster Service, June 1972 . . . . .	6
2	Rainfall Characteristics of Valley Stations, 1896-1972. . . . .	8
3	Precipitation Stations and Spreading Grounds . . . . .	10
4	Stream Gaging Stations . . . . .	13
5	Lines of Equal Elevation of Ground Water, Fall 1971. .	14
6	Lines of Equal Elevation of Ground Water, Spring 1972. .	15
7	Lines of Equal Change of Ground Water Elevation, Fall 1970 to Fall 1971 . . . . .	15
8	Fluctuation of Water Levels at Wells in the Pasadena Subarea . . . . .	16
9	Fluctuation of Water Levels at Wells in Monk Hill Basin. . . . .	18
10	Fluctuation of Water Levels at Wells in the Santa Anita Subarea . . . . .	18
11	Locating State Well No. 1N/12W-25Q01S. . . . .	19
12	Well Locations . . . . .	20
13	Climatic Conditions and Water Use . . . . .	22
14	Sewage Gaging Stations . . . . .	26

### List of Tables

1	Precipitation . . . . .	9
2	Credit for Water Spread by City of Sierra Madre . . .	10
3	Water Spread for Ground Water Recharge . . . . .	11
4	Raymond Basin Runoff . . . . .	12
5	Summary of Water Use in 1971-72 Watermaster Year . . .	24
6	Gross Water Supply . . . . .	25
7	Exchange Water Pool Transactions . . . . .	27
8	Annual and Five-Year Variation from Decreed Right . .	28
9	Variation of Average Annual Extractions from Safe Yield . . . . .	29
10	Approved Budget for 1971-72 Season . . . . .	31
11	Apportionment of Shares in 1971-72 Budget . . . . .	31
12	Statement of 1971-72 Income and Expenditures . . . . .	32





(MUTUAL AND PUBLIC UTILITY)

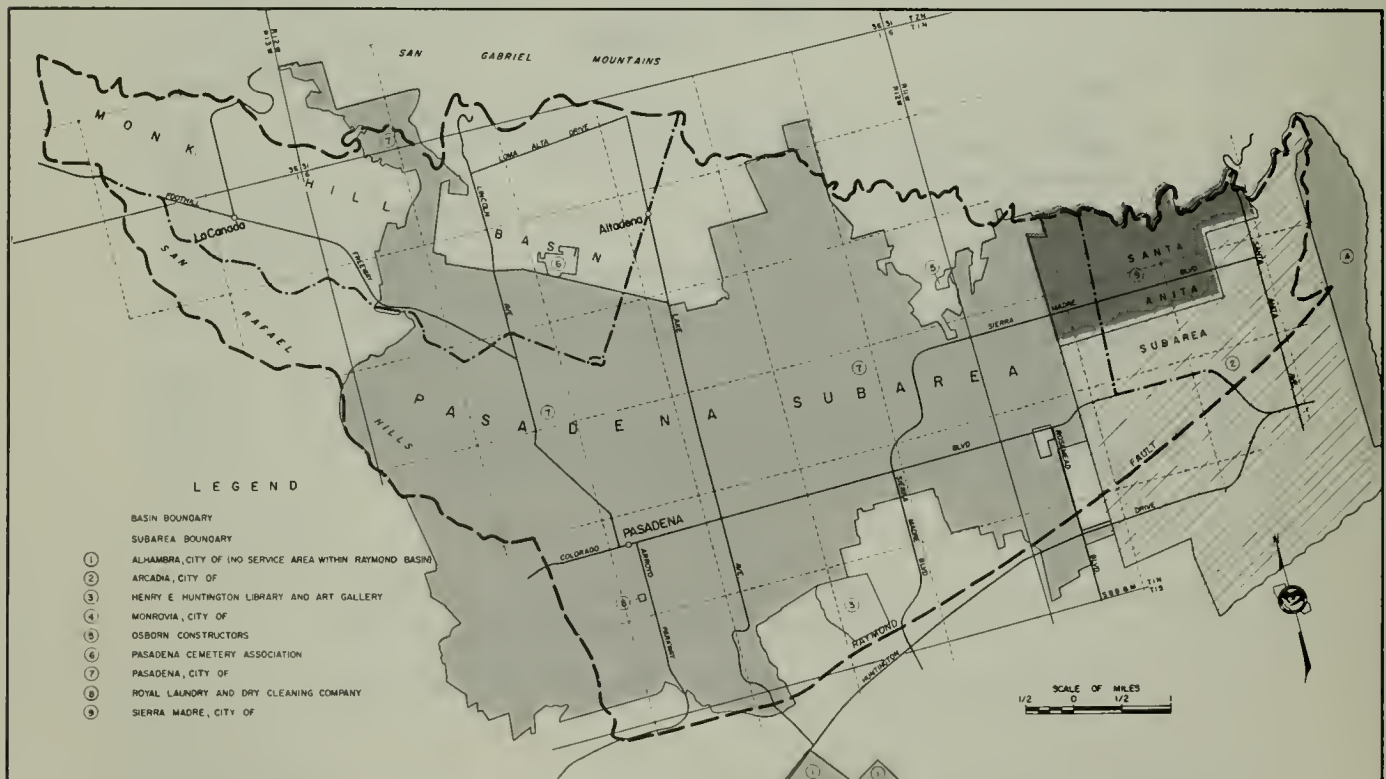


Figure 1. WATER SERVICE AREAS OF PARTIES TO WATERMASTER SERVICE, JUNE 1972

## I. THE RAYMOND BASIN

A reliable source of potable ground water is a valuable asset to any community. The Raymond Basin, located in the northwest corner of the San Gabriel Valley, is such a source for the cities of Alhambra, Arcadia, Monrovia, Pasadena, San Marino, Sierra Madre, and the communities of Altadena and La Canada. Watermaster Service provided by the California Department of Water Resources helps to protect the rich supply of ground water for the residents and industries. Figure 1 depicts water service areas of the parties.

The Raymond Basin is a small, triangular ground water reservoir flanked by mountains on the north and west. The southern side is bounded by a seven-mile-long impervious dike formed by the Raymond Fault, which effectively separates the Raymond Basin from the San Gabriel Valley Basin.

Ground water has always had an impact on the people who live and work in the Raymond Basin. Most of the Basin's 40-square-mile area supports an urban-suburban population. The cities overlying the area use large amounts of fresh water daily, a substantial portion of which is pumped directly from the Basin. The Basin's supply totals 30,622 acre-feet of water.

Some years ago, when the ground water supply was endangered by rapidly falling water levels, timely legal action by interested water users halted the overdraft and prevented serious damage to the Basin. To prevent eventual depletion of ground water, the Judgment limited each party to a specific annual extraction. Certain variations were permitted but no variance could prevail beyond a five-year period. In 1955, provisions in the original Judgment were modified and variations from decreed right were restated, increasing water

rights. Since then, these have been referred to as the "Decreed Right 1955".

Presently, all water used in the Basin, particularly ground water, is monitored by a court-appointed Watermaster who reports all significant water-related events occurring in the Basin to the Superior Court and parties to the Judgment.

### Activities of the Watermaster

Accurate measurement of ground water extractions is absolutely essential to the success of the Basin's management plan. The Watermaster field staff calibrates the water meter on every active water well at least once every two years and uses every available means, including system efficiency tests, to confirm water meter test results. Inaccurate meters must be repaired within 30 days. Follow-up tests on repaired meters and initial tests on new wells are scheduled whenever necessary.

Once a month the Watermaster receives ground water extraction reports from ground water pumpers and updates each water right account by computing the amounts pumped during the previous month and the current fiscal year. From this data he establishes the amount of water that may legally be extracted by each pumper during the rest of the year.

The Watermaster measures depth to static ground water level in about 115 wells situated throughout the Basin in the spring and fall and prepares fall and spring contour maps of the ground water surface and a "fall-to-fall" map showing lines of equal elevation change in a one-year period. The Watermaster also operates nine stream gaging stations to measure surface flow.

The Watermaster began a sewage outflow measurement program during the 1968-69 season, using F-type water stage recorders on 12 major sewage trunk lines leaving the Raymond Basin. The measuring program was continued during the 1971-72 season.

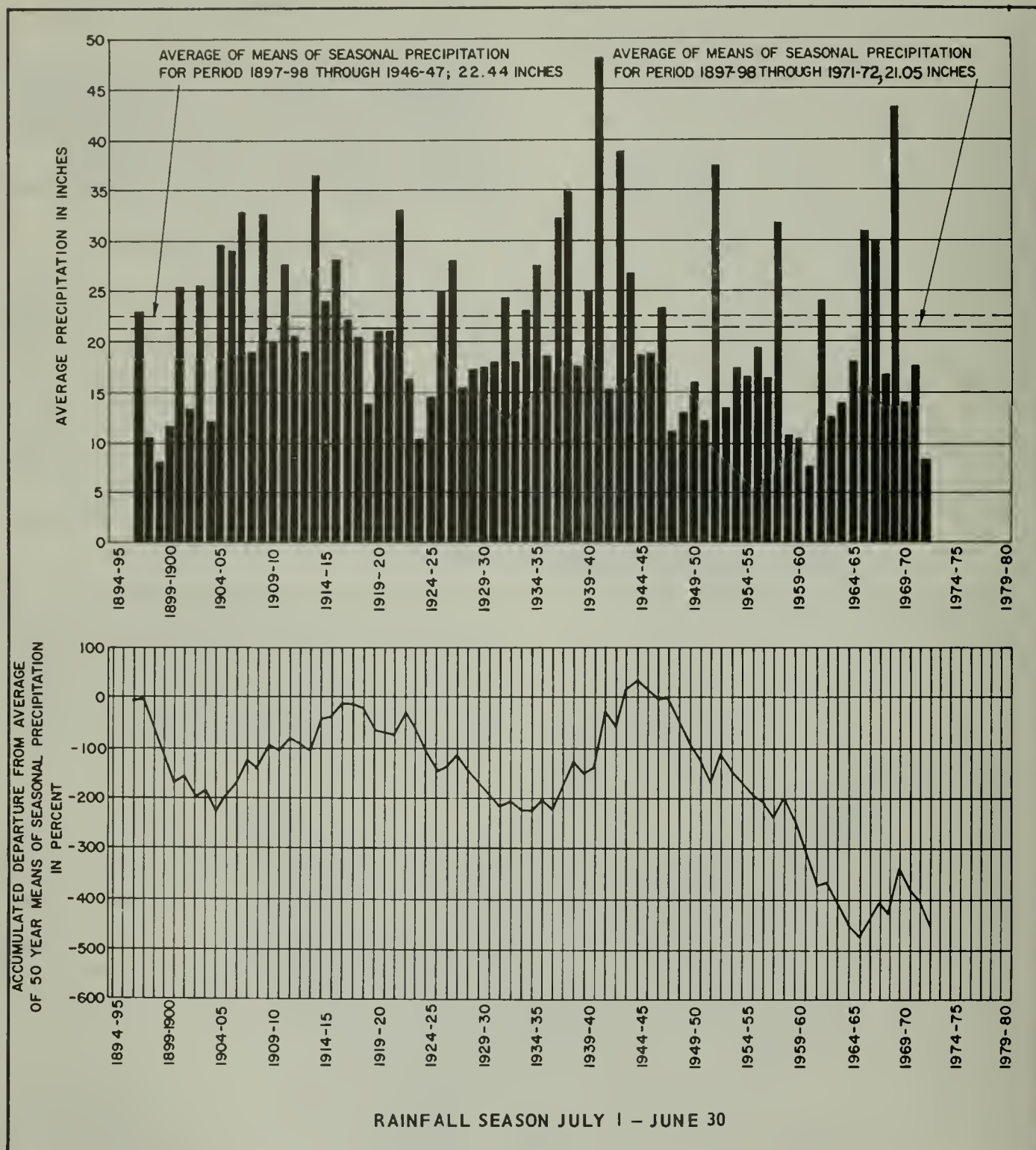


Figure 2. RAINFALL CHARACTERISTICS OF VALLEY STATIONS, 1896 - 1972



## II. WATER SUPPLY

Southern California's urban economy is supplied by the Colorado and Owens Rivers, mountain runoff, ground water, reclaimed wastewater, and desalinated water. These sources contribute to one of the world's largest water supply systems.

### Precipitation

The ground water supply of the highly permeable Raymond Basin could be considerably influenced by local precipitation. Natural replenishment of ground water occurs easily when water has time to percolate into a storage zone. Unfortunately, most of the Basin is urban and much of its surface is paved with asphalt and concrete that

channels the runoff before it can penetrate the ground and replenish the ground water supply.

Long-term precipitation trends appear in Figure 2, in which a downward slope indicates a continued dry period and an upward slope indicates an above normal increase in precipitation. The curve of cumulative departures from the mean shows the relative magnitude of the drought that began in 1944.

During the 1971-72 season, precipitation was about 37 percent of the long-time mean at valley stations and about 38 percent of the mean at mountain stations (Table 1). The below-normal precipitation during the past season continued the downward slope.

Table 1. PRECIPITATION

Station		Type	Period of record in years	July through June, in inches		
Name	Valley			Moun- tain	1970-71	1971-72
Altadena Golf Course	X		75	17.74	5.38	23.11
Highland Park	X		77	13.36	7.77	18.52
La Canada	X		60	18.76	10.75	23.20*
Mt. Wilson Airways		X	38	25.70	12.86	36.40*
Oakwilde		X	45	16.37	8.43	28.19*
Opid's Camp		X	55	32.76	17.18	41.19*
Pasadena Chlorine Plant		X	56	18.73	10.25	23.40*
Sierra Madre	X	X	77	19.72	9.51	25.00
Switzer's Camp		X	45	22.43	10.78	27.72*
Upper Haine's Canyon		X	54	26.09	11.60	30.06*
Seasonal Average	X			17.40	8.35	
		X		23.11	11.52	
*Estimated						

Table 2. CREDIT FOR WATER SPREAD BY CITY OF SIERRA MADRE

Season	(1) Salvage water at beginning of year	Water spread for salvage			(5) Salvage water lost to subsurface outflow	(6) Salvage water extracted	(7) Salvage water at end of year (1)+(4)-(5)-(6)=(7)
		(2) Amount	(3) Lost through natural percolation	(4) Water stored (2)-(3)=(4)			
1951-52	0	1,937.0	526.9	1,410.1	124.4	449.4	836.3
52-53	836.3	258.0	94.6	163.4	243.1	334.9	421.7
53-54	421.7	580.0	4.6	575.4	115.4	596.1	285.6
54-55	285.6	341.0	21.5	319.5	15.1	559.1	30.9
55-56	30.9	429.0	90.9	338.1	9.6	128.0	231.4
56-57	231.4	331.0	167.1	163.9	42.1	62.0	291.2
57-58	291.2	3,409.0	811.9	2,597.1	278.8	0.0	2,609.5
58-59	2,609.5	1,308.0	521.0	787.0	945.1	37.5	2,413.9
59-60	2,413.9	45.0	10.4	34.6	705.6	208.2	1,534.7
1960-61	1,534.7	51.0	16.0	35.0	214.1	1,116.3	239.3
61-62	239.3	1,283.0	445.6	837.4	43.1	292.9	740.8
62-63	740.8	1,121.0	554.4	576.6	241.7	253.9	821.8
63-64	821.8	699.0	164.4	534.6	180.2	451.3	724.9
64-65	724.9	904.0	208.0	696.0	142.8	837.3	440.2
65-66	440.2	4,233.0	979.0	3,254.0	553.9	433.1	3,140.3
66-67	3,140.3	4,537.0	945.1	3,591.9	1,204.6	0.0	5,527.6
67-68	5,527.6	2,625.0	1,069.2	1,555.8	1,749.8	0.0	5,333.5
68-69	5,333.5	2,984.0	371.9	2,612.1	1,590.4	0.0	6,355.2
69-70	6,355.2	1,529.3	932.2	597.1	1,535.3	0.0	5,417.0
1970-71	5,417.0	1,145.3	369.7	775.6	1,316.3	0.0	4,876.3
71-72	4,876.3	1,014.4	311.5	702.9	1,548.7	0.0	4,030.5
Totals		30,764.0	8,605.9	22,148.1	12,800.1	5,760.0	

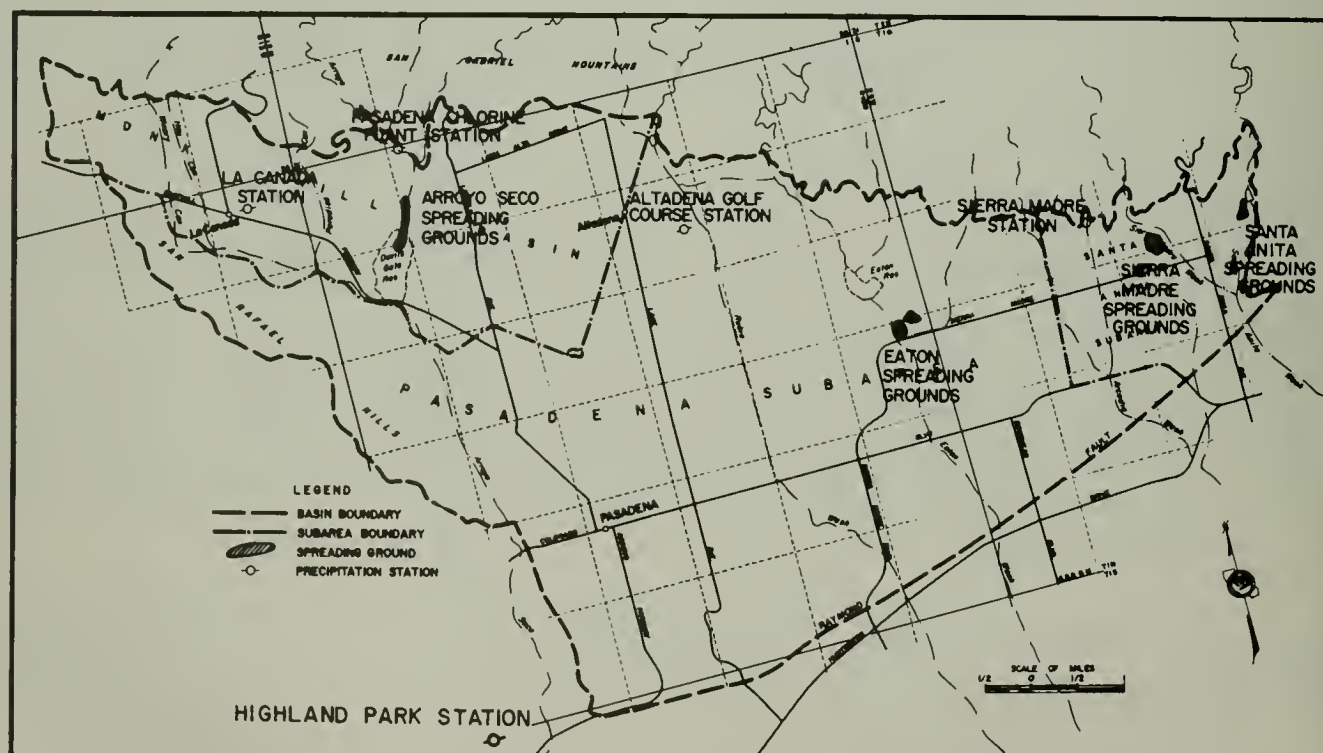


Figure 3. PRECIPITATION STATIONS AND SPREADING GROUNDS

### Ground Water Recharge

Overdraft occurs when water is extracted from a ground water basin more rapidly than it is replaced naturally. Ground water aquifers usually recharge themselves so slowly that a few years of concentrated pumping may upset a balance that took centuries to establish. This is the situation that existed in the Raymond Basin several years ago.

Today, several methods of artificial recharge are being used to reestablish and maintain nature's balance. One of these is water spreading. Areas are flooded with water that will percolate into aquifers and supplement the natural supply. Large quantities of water can be returned to the ground by water spreading, but the process is limited by the space available for spreading and the capacity of the ground water basin to accept the water.

The Los Angeles County Flood Control District (LACFCD) operates three spreading grounds in the Raymond Basin--Arroyo Seco, Eaton Wash, and Santa Anita Grounds (figure 3). Another project, Sierra Madre Grounds, is operated by the City of Sierra Madre. Since the spread water is added directly to the Raymond Basin, water levels

near the spreading grounds, especially the Eastern Unit and Monk Hill Basin, reflect the additions quickly. Water spreading thus benefits all parties in the Basin considerably. (Table 3.)

### Salvage Credit for City of Sierra Madre

The City of Sierra Madre spreads local street runoff and water diverted from Santa Anita Creek and Sierra Madre Wash in its spreading grounds. Essentially, the City uses the Eastern Unit as a storage facility, a privilege it obtained several years ago through an agreement with Arcadia. The Watermaster determines the total quantity of water spread in the Sierra Madre Grounds and credits the City with the portion of the spreading that is not part of the natural replenishment of the Eastern Unit. This water is called "salvage credit" water. It may not be pumped by the City until both its exchange water purchase, if any, and decreed right are fully used. Salvage credit remaining at the end of each season since 1951 is summarized in Table 2. The City did not pump any of its salvage credit water during the past season. It did, however, lose some of the stored water through subsurface outflow.

Table 3. WATER SPREAD FOR GROUND WATER RECHARGE

Spreading Grounds	Source	Acre-feet
<u>Los Angeles County Flood Control District</u>		
Arroyo Seco	Arroyo Seco	173
Eaton Wash	Eaton Canyon	0
Santa Anita	Santa Anita Canyon	30
<u>City of Sierra Madre</u>		
Sierra Madre	Santa Anita Canyon, Little Santa Anita Canyon, and street runoff	<u>1,014</u>
	TOTAL	1,217

Table 4. RAYMOND BASIN RUNOFF

Watermaster Stream Gaging Stations		Flow in acre-feet
No.	Name	
<u>Monk Hill Basin Flow into Devil's Gate Reservoir</u>		
62190	Flint Wash	1,375
62985	West Altadena Drain	<u>283</u>
TOTAL INTERNAL FLOW		1,658
<u>Inflow to Raymond Basin</u>		
62250	Arroyo Seco <sup>a/</sup>	618
	City of Pasadena diversions	<u>926</u>
Subtotal		1,544
75360	Eaton Wash <sup>a/</sup>	533
	City of Pasadena diversions	<u>234</u>
Subtotal		767
<u>b/</u>	Sierra Madre Dam <sup>a/</sup>	47
<u>b/</u>	Santa Anita Dam <sup>a/</sup>	<u>1,392</u>
TOTAL INFLOW		5,408
<u>Outflow from Raymond Basin</u>		
<u>b/</u>	Devil's Gate Dam	763
62150	Seco Drain	915
75135	Broadway Drain	1,290
75220	Rubio Drain	1,633
75300	Eaton Creek near Pasadena	561
75450	Arcadia Wash	1,188
<u>b/</u>	Santa Anita Wash	<u>249</u>
TOTAL OUTFLOW		6,599
<u>a/</u> Includes water diverted to spreading grounds within the basin.		
<u>b/</u> Operated by Los Angeles County Flood Control District.		



## Runoff

Thirteen stream gaging stations are used to determine the volume of surface water moving through the Raymond Basin. The Watermaster operates nine, and the Los Angeles County Flood Control District operates the remaining four. The

location of each station is shown in Figure 4. Appendix A summarizes the information collected at gaging stations operated by the Watermaster. The seasonal summary of "measured" flow at each gaging station appears in Table 4.

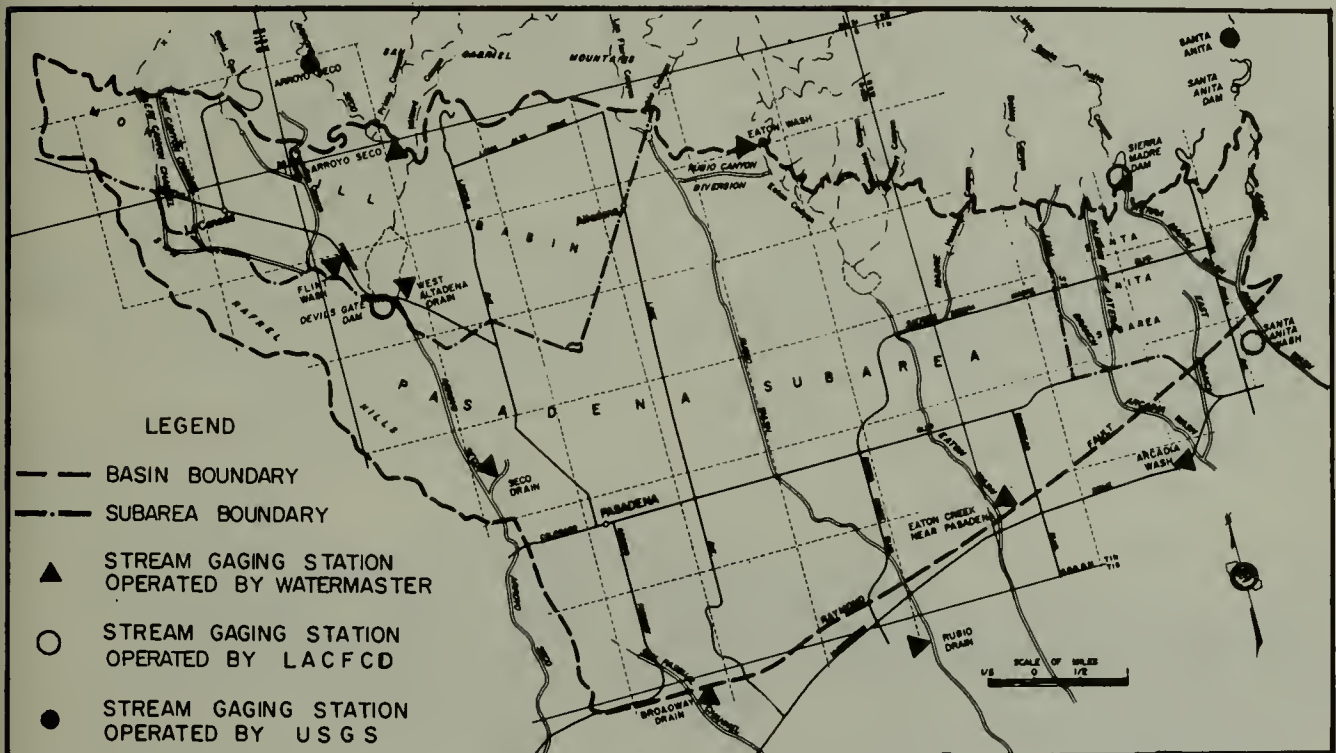


Figure 4. STREAM GAGING STATIONS

## Ground Water Elevations

During the past season, the Watermaster collected and processed data to determine prevailing ground water conditions in the Raymond Basin. Results of this study appear on Figures 5, 6, and 7.

Figure 5 shows the elevations of the ground water table that existed during the fall of 1971. Figure 6 represents the water table that existed in the spring of 1972 at the end of the rainy season and shows the conditions resulting from the dry winter. Figure 7 shows the changes in elevation that occurred in the water table between the 1970 and 1971 fall seasons. Any significant change is easily detected.

Hydrographs depicting historical ground water table fluctuations in selected wells in the Raymond Basin are shown on Figures 8, 9, and 10. The sites of these wells appear on Figure 12. Many more hydrographs are available for inspection

at the Watermaster's Office.

The hydrograph of the City of Arcadia's Orange Grove No. 4 well (Figure 10) is one of the Arcadia group of wells whose performance governs the limitation of pumping in the Eastern Unit of the Raymond Basin. The limitation is imposed if the water surface at the Arcadia group of wells drops below an elevation of 500 feet above sea level. The limitation reduces the annual extraction from the Eastern Unit during the following season from 5,290 acre-feet to 3,261 acre-feet. Because the water surface was above the 500-foot limit during spring 1972, the limitation of pumping will not be in effect during the 1972-73 season.

An examination of the hydrographs also indicates that the meager 1971-72 rains which resulted in sparse water spreading brought about a very slight rise of water levels throughout the Eastern Unit and Monk Hill Basin.

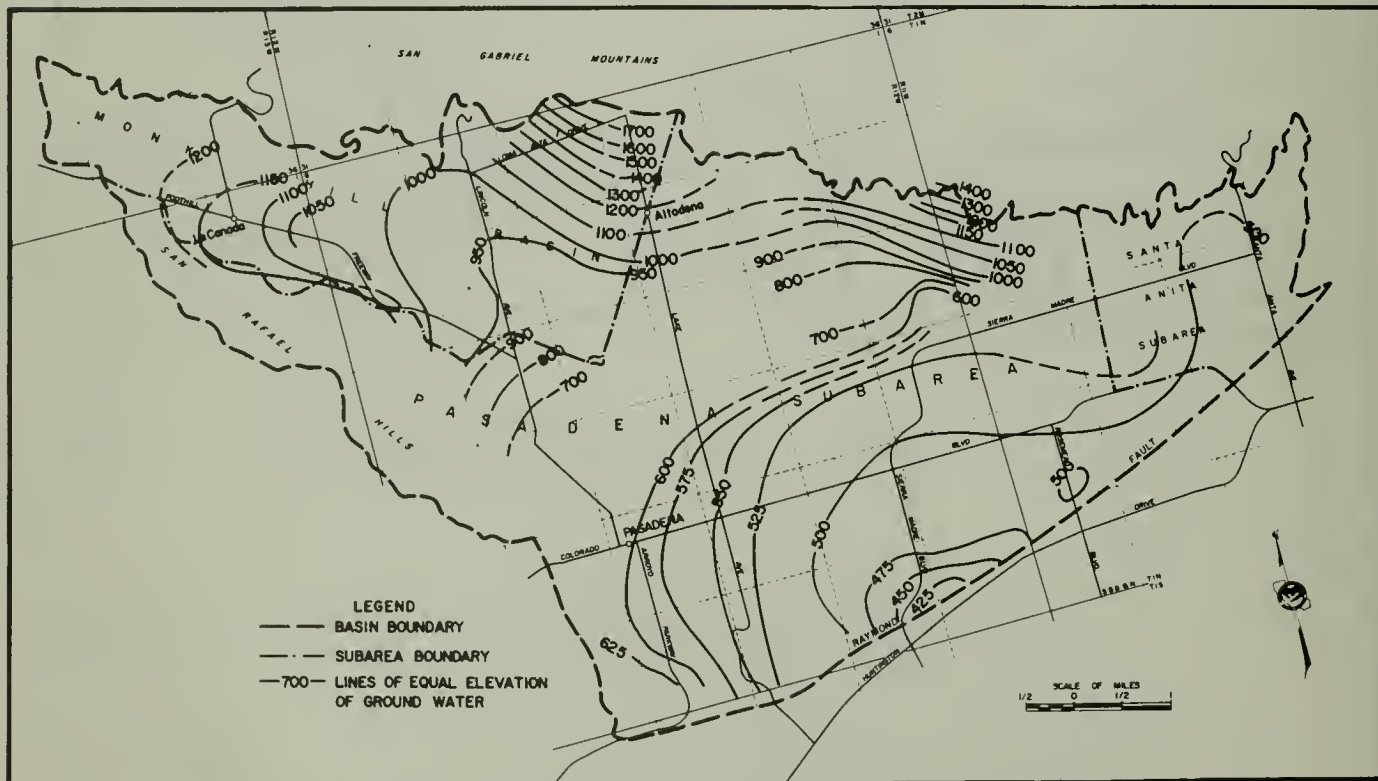


Figure 5. LINES OF EQUAL ELEVATION OF GROUND WATER, FALL 1971

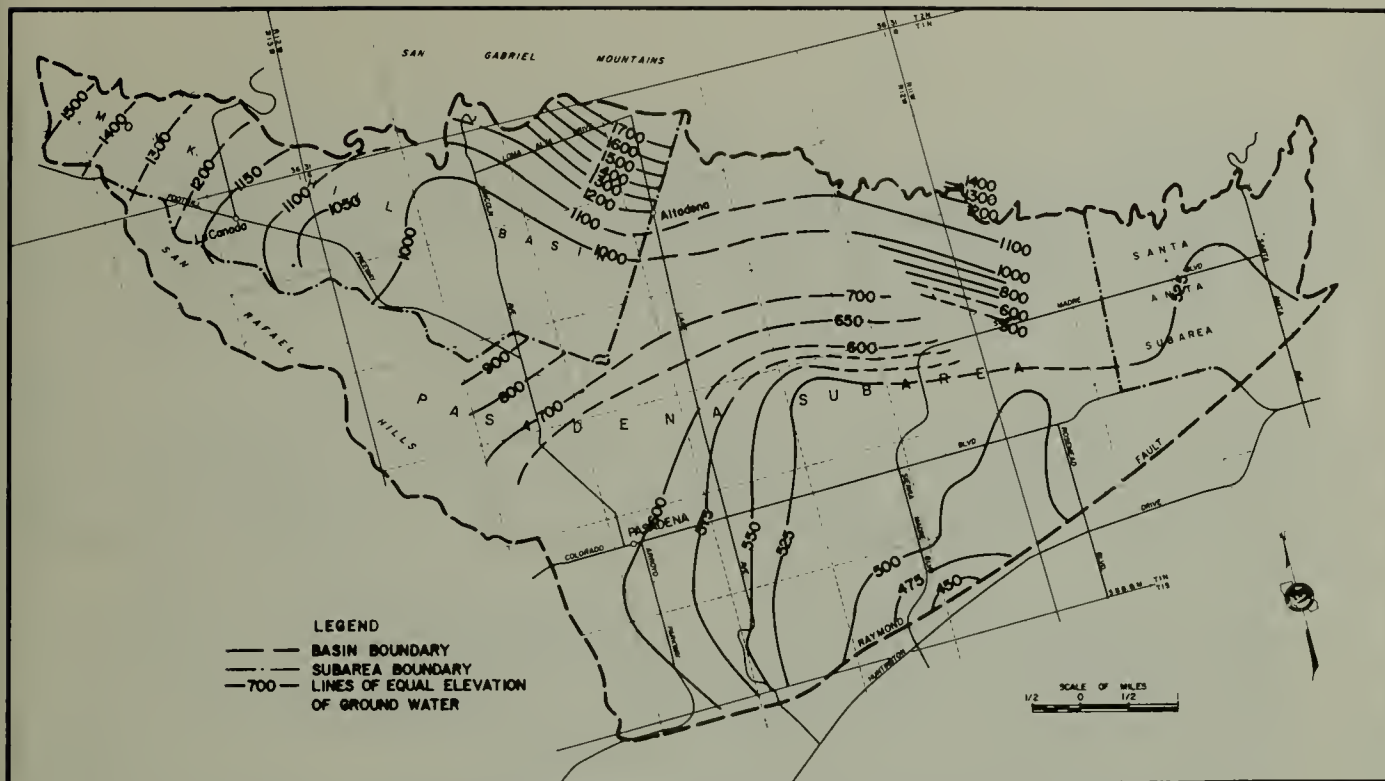


Figure 6. LINES OF EQUAL ELEVATION OF GROUND WATER, SPRING 1972

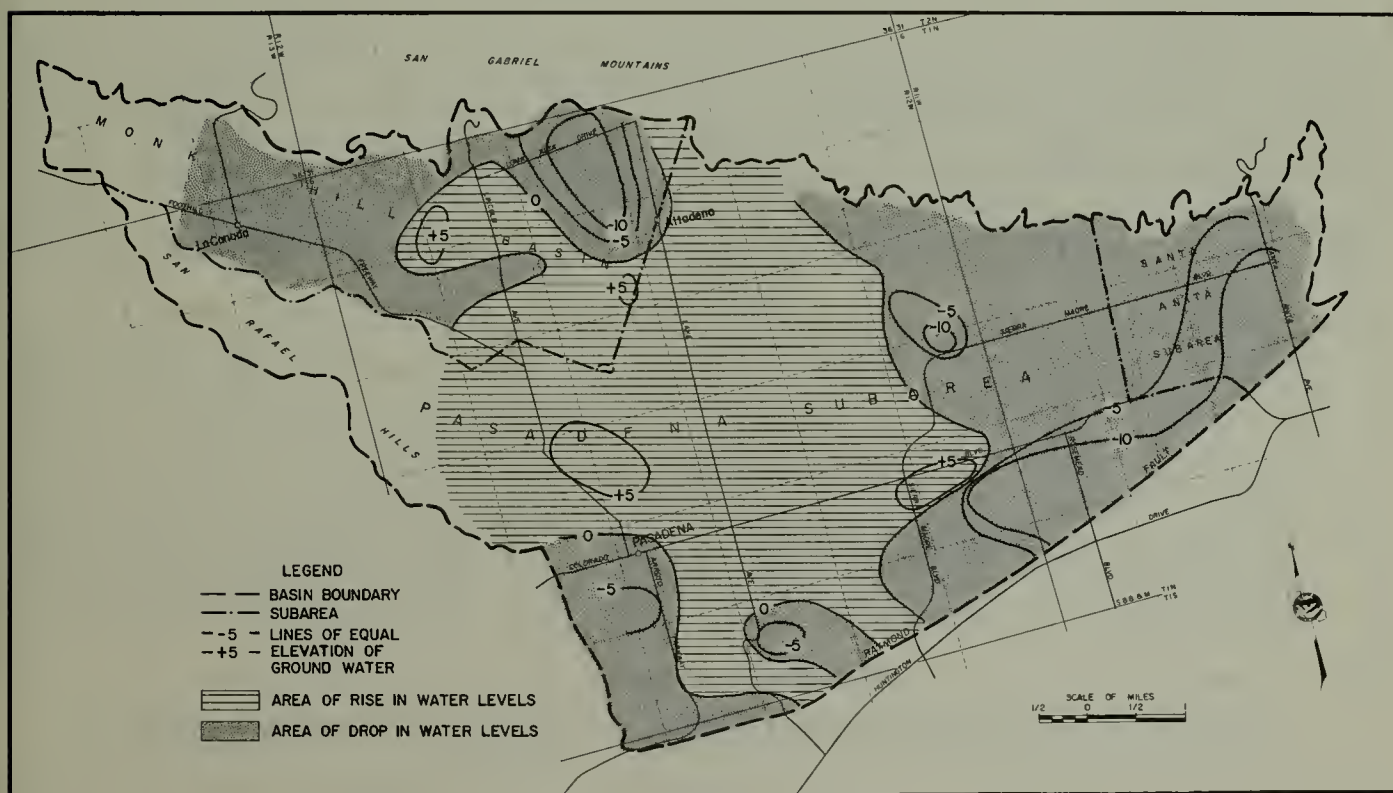


Figure 7. LINES OF EQUAL CHANGE OF GROUND WATER ELEVATION, FALL 1970 TO FALL 1971



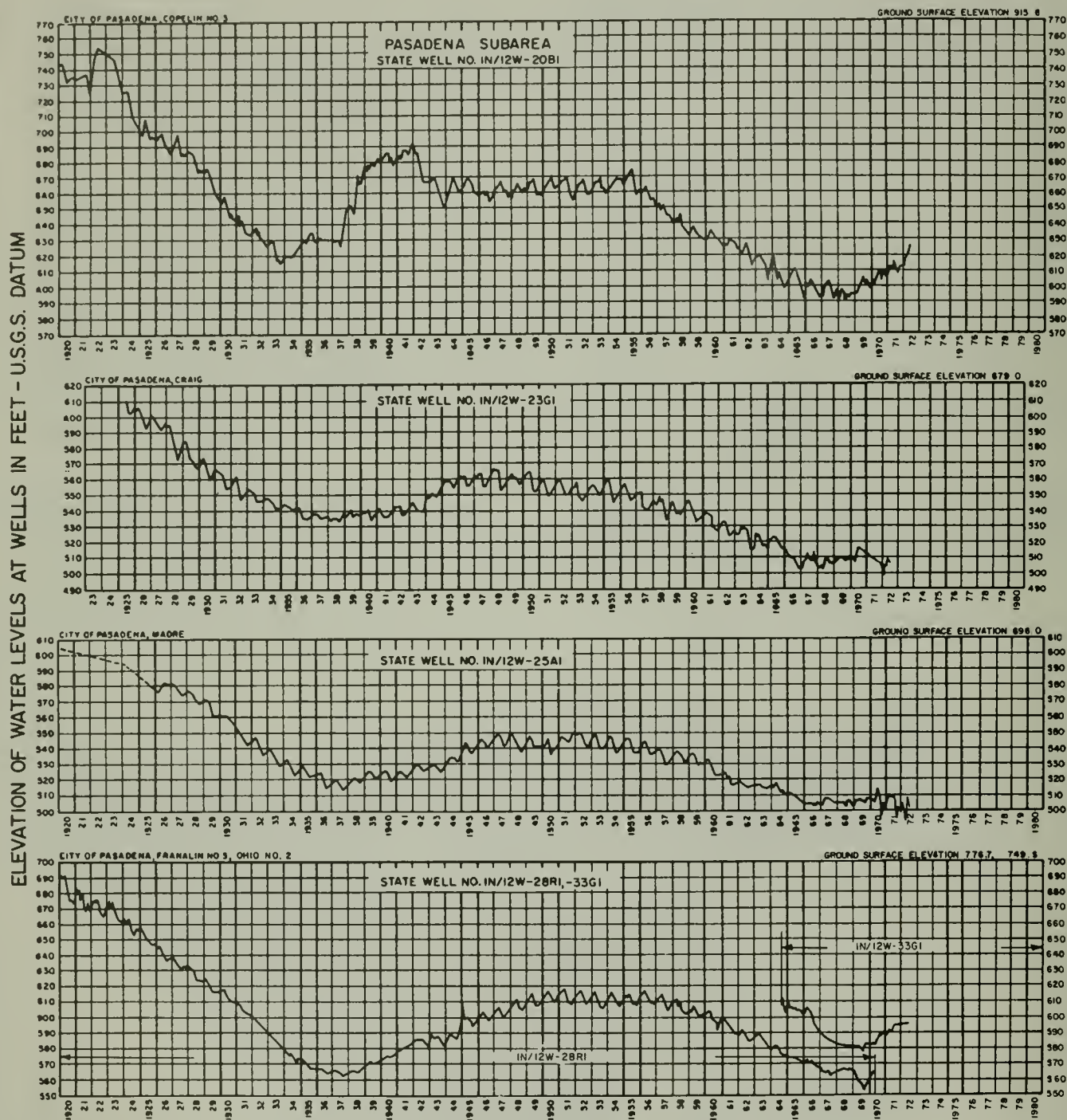


Figure 8. FLUCTUATION OF WATER LEVELS AT WELLS IN THE PASADENA SUBAREA



ELEVATION OF WATER LEVELS AT WELLS IN FEET - U.S.G.S. DATUM

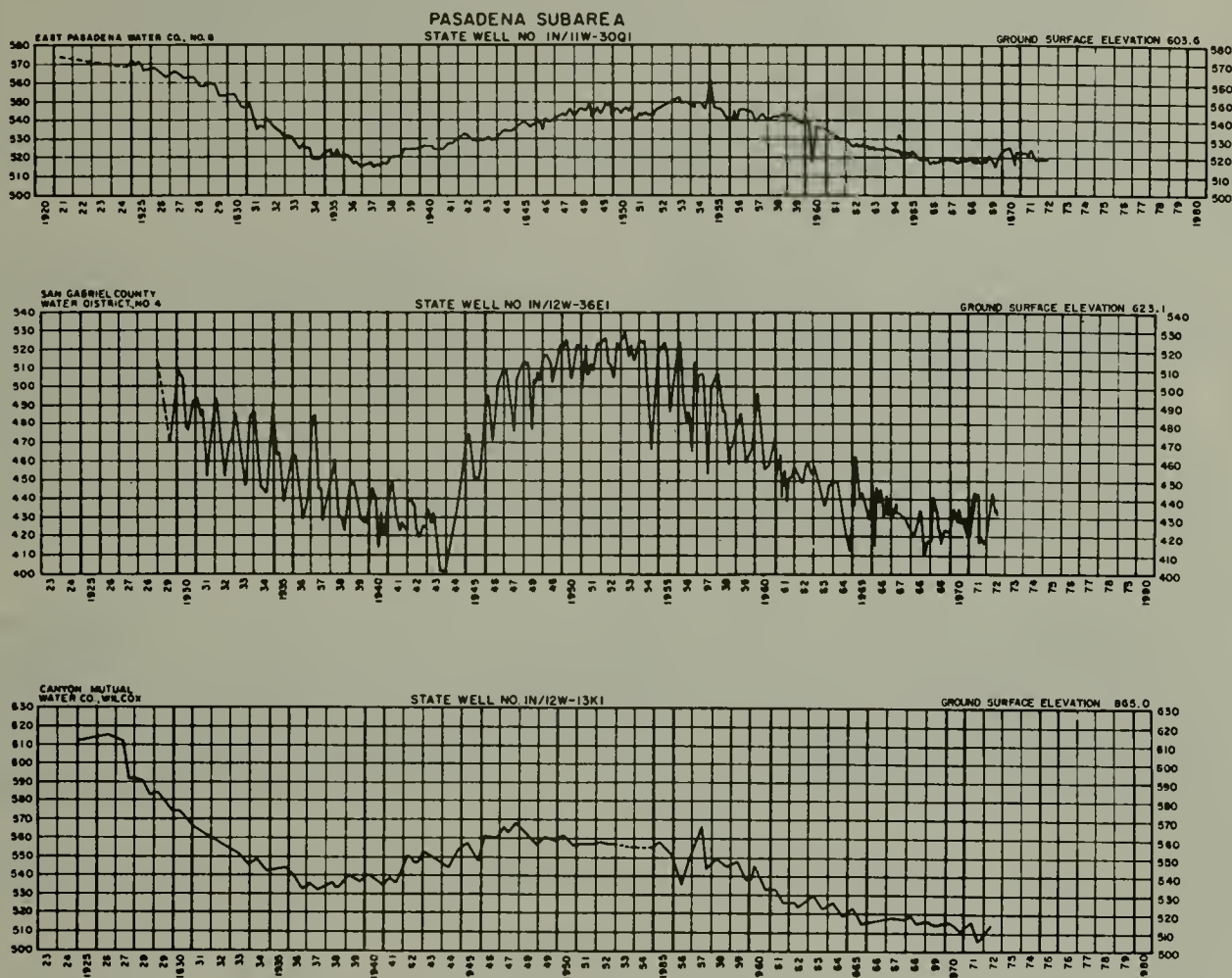


Figure 8. (continued)

ELEVATION OF WATER LEVELS AT WELLS IN FEET - U.S.G.S. DATUM

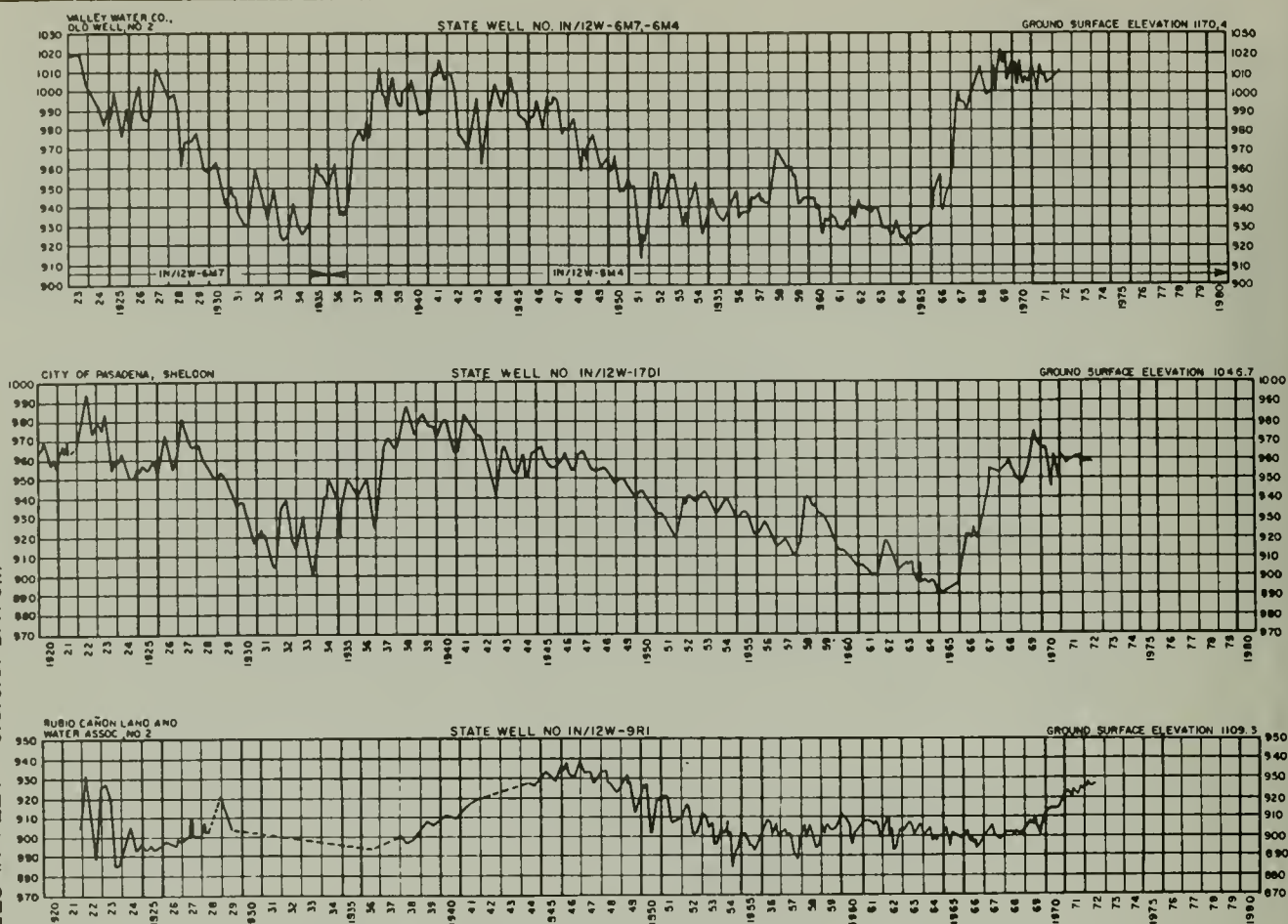


Figure 9. FLUCTUATION OF WATER LEVELS AT WELLS IN THE MONK HILL BASIN

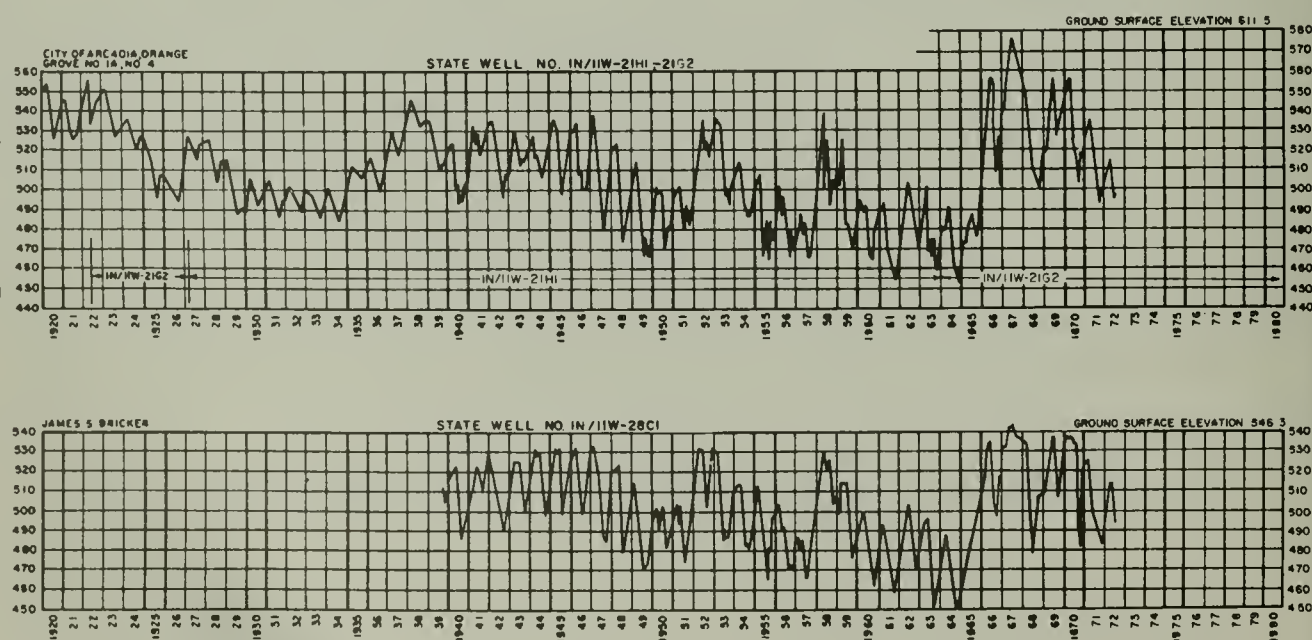


Figure 10. FLUCTUATION OF WATER LEVELS AT WELLS IN THE SANTA ANITA SUBAREA

# Water Well Numbering in the Raymond Basin

In the 1971-72 season, the Raymond Basin contained 131 existing wells, 66 of which were active. No new wells were drilled and one existing well was destroyed.

Each water well in the Raymond Basin can be found by its state well number. A state well numbering system based on the U.S. Public Land Survey was adopted a number of years ago. Each well number consists of township, range, and section numbers; a letter to identify the 40-acre tract in which the well is located;

a sequence number to show the chronological order in which the well was identified; and a letter to represent the base and meridian. The letter "S" is sometimes omitted because all wells in the Raymond Basin are situated in relation to the San Bernardino base and meridian. The parts of state well number 1N/12W-25Q01S are illustrated in the following breakdown:

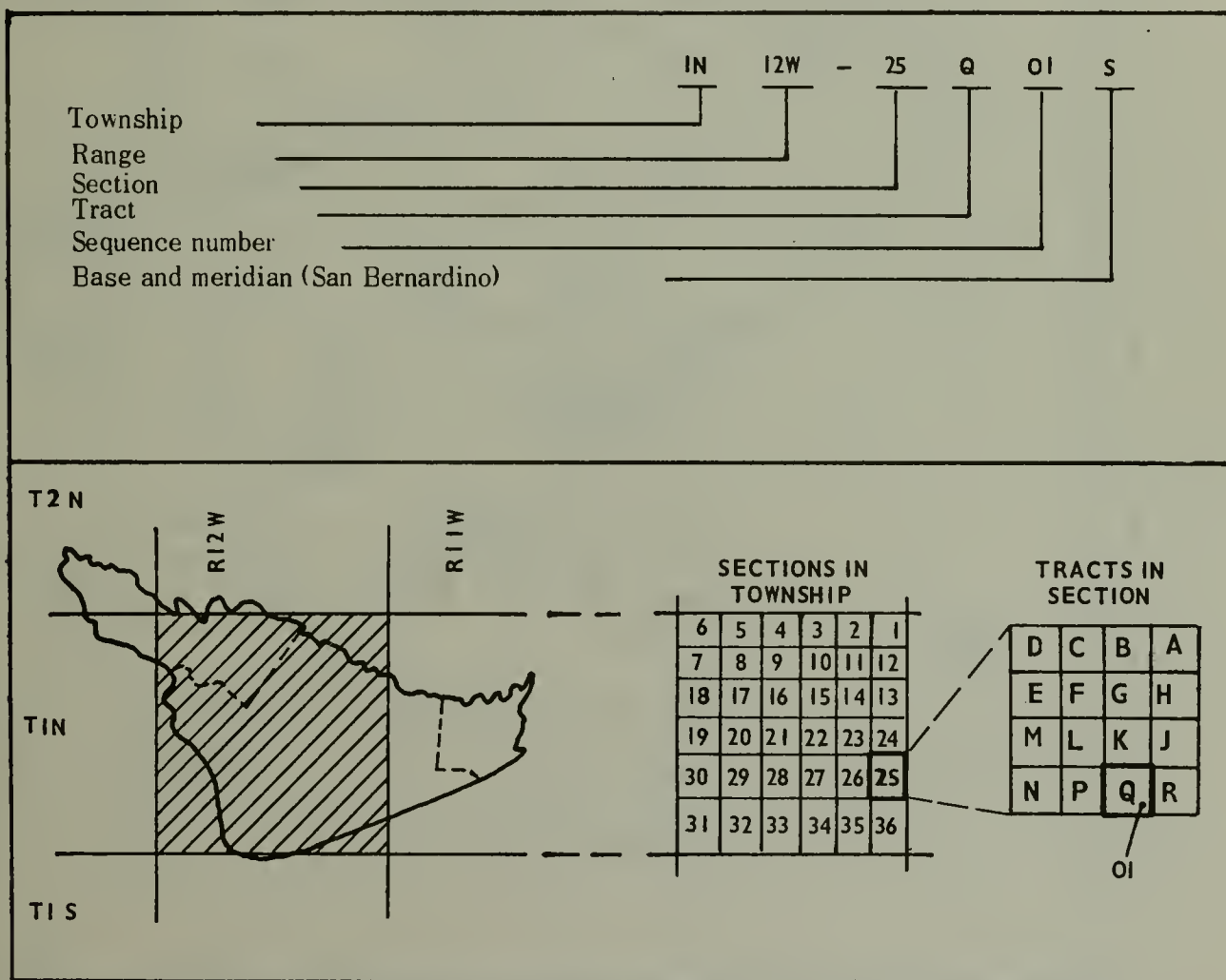


Figure 11. LOCATING STATE WELL NO. 1N/12W-25Q01S

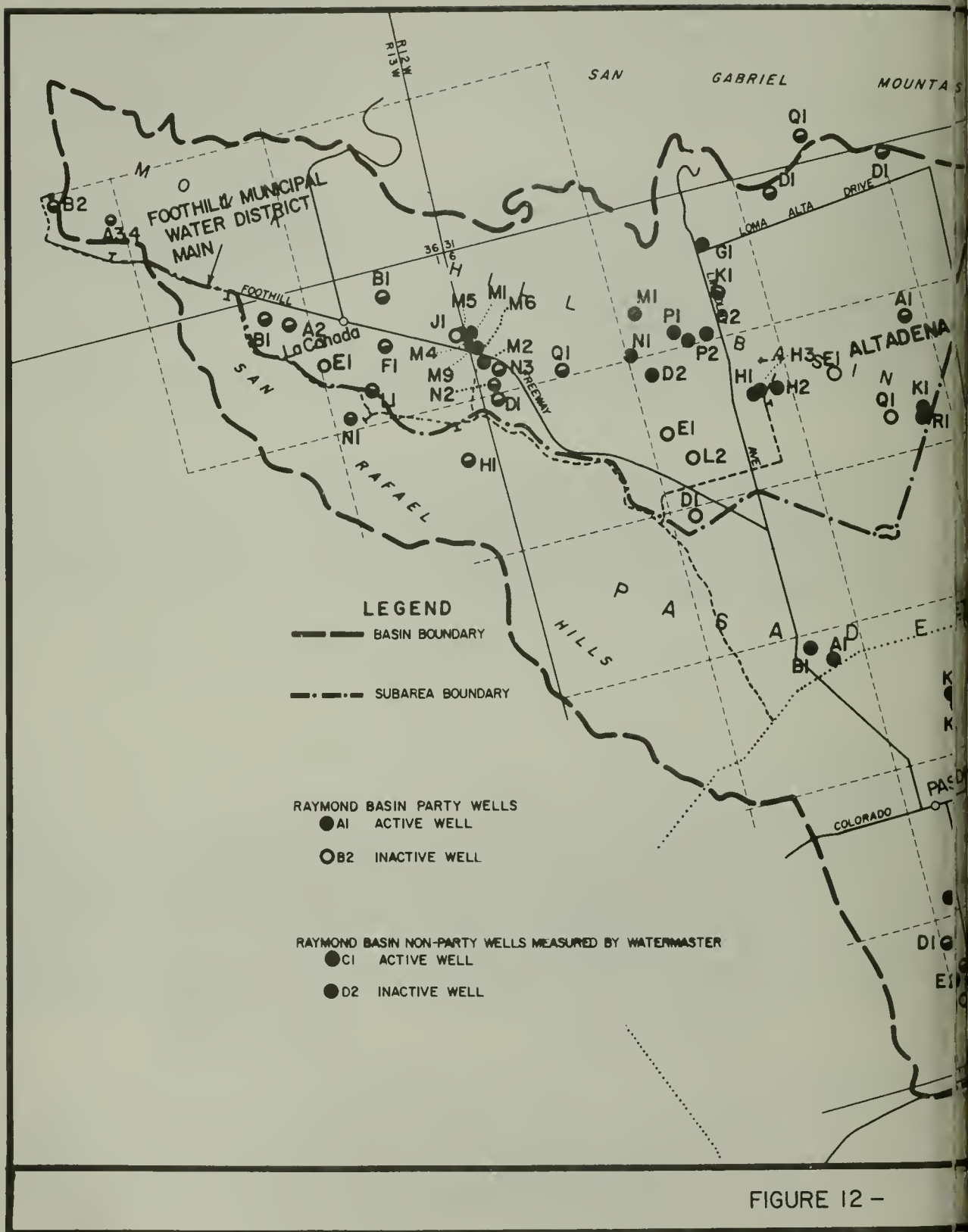


FIGURE 12 -





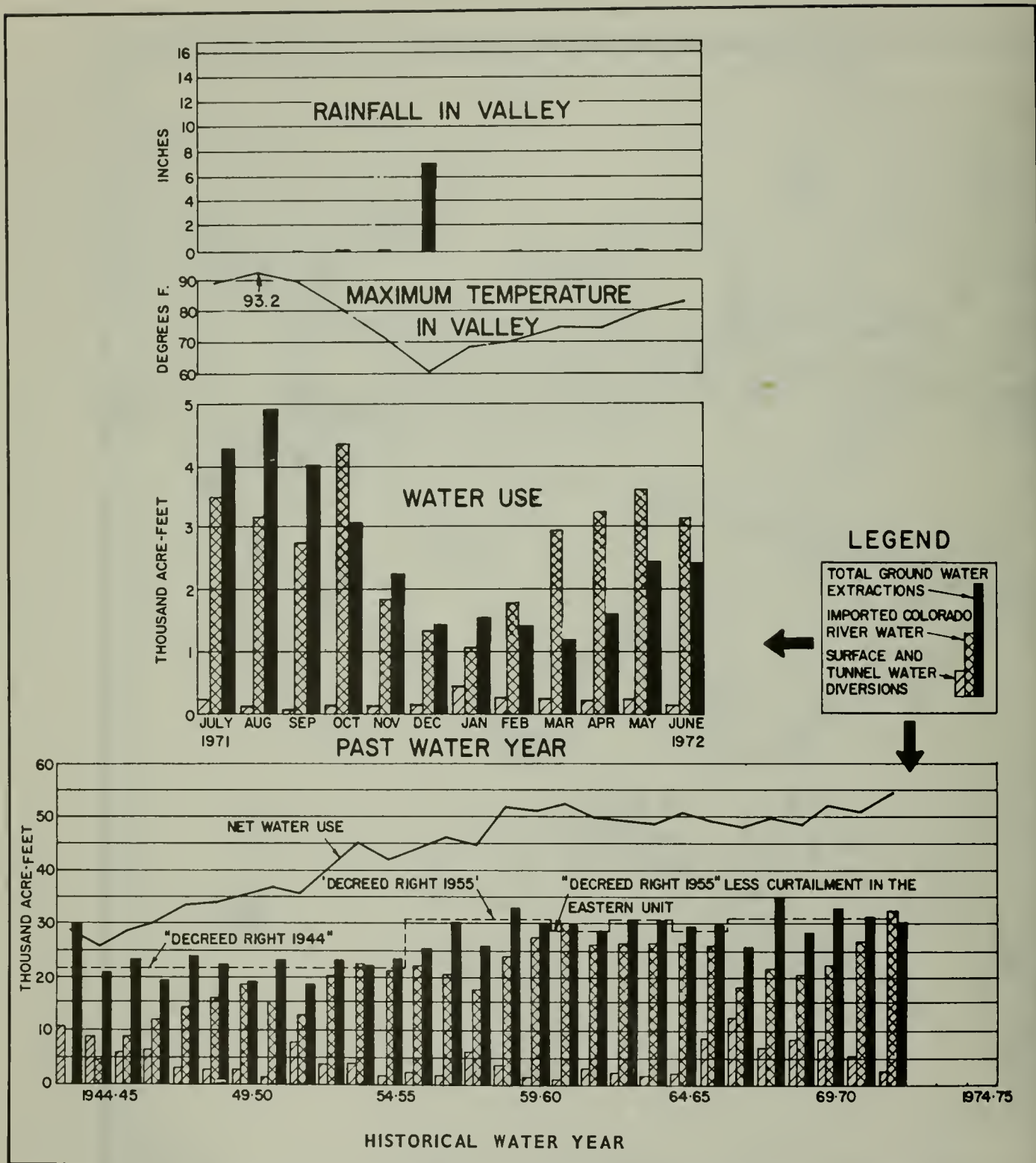


Figure 13. CLIMATIC CONDITIONS AND WATER USE

### III. WATER USE

Net water use is the sum of ground water extractions, salvage water extractions (City of Sierra Madre), surface water diversions tributary to the Raymond Basin, and water imported to the basin, minus the exports from the basin. Water which is diverted for spreading is not included in the net water use computations (Table 5).

Rapid population growth between 1944 and 1958 caused a substantial increase in net water use by parties. Despite greater numbers of people, use of local ground water supplies has been held to the decreed rights since 1944. Population growth has leveled off since 1959.

Most of the increased water requirement has been met by Colorado River water imports. Historical water use and the correlation between current climatic conditions and monthly water use are presented on Figure 13. Rainfall values are based on valley station records (Table 1), and temperature values are based on the average temperatures at the Cities of Pasadena and Sierra Madre.

The bar graphs on Figure 13 are striking proof that climate is one of the most important phenomena that regulate water use. For example, as rainfall increases and temperatures fall, water use declines.

#### Ground Water Extractions

The Raymond Basin Judgment limits the amount of ground water that each party can extract annually from the basin or can release to the Water Exchange Pool for pumping by other parties. Recipients of exchange water may pump the amount released to them in addition to their "Decreed Right 1955."

The metered ground water production from each active well in the basin is listed by party in Appendix B, which shows the total ground water production reported by each party.

The gross water supply includes all sources of water necessary to supply each party's total water requirement. A report on the gross water supply of all parties appears in Table 6. Several parties that extracted ground water from the basin adjacent to the Raymond Basin are also shown in Table 6.

#### Surface Water Diversion

The Judgment allows certain parties to divert surface water tributary to the Raymond Basin. Parties also divert and import nontributary surface water. Two types of diversions are used: surface and tunnel. Surface diversions collect surface water, such as streams or springs. Tunnel diversions collect subsurface water in either horizontal or vertical galleries. In both cases, the water is diverted to a reservoir, treatment plant, or service facility. (See Table 6.)

#### Use of Imported Water

Colorado River water was first available in June 1941 to the City of Pasadena. However, the city did not begin to use this water continuously until June 1945. The amount of Colorado River water imported last season by each party connected with the Foothill Municipal Water District and by the City of Pasadena is shown in Table 6.

#### Ground Water Exports

The Watermaster assumes that parties with service areas both inside and outside the basin export ground water only if their water sales in the basin are less than the sum of water pumped, diverted, and purchased in the basin. Since the City of Pasadena's supply of water comes from several sources, its total export contains Colorado River water, diverted surface water, and ground water. (See Table 6.)

Table 5. SUMMARY OF WATER USE IN 1971-72 WATERMASTER YEAR

Party	(1)	(2)	Excluding carryover from 1970-71		(5)	Including carryover from 1970-71	
	"Decreed Right 1955"	Total amount pumped 1971-72	(3)	(4)	Carryover from 1970-71	(6)	(7)
			Balance on June 30, 1972 (1)-(2)=(3)	Overextraction in percent of "Decreed Right 1955" (3)÷(1)× 100=(4)		Balance on June 30, 1972 (1)-(2)+(5)=(6)	Overextraction in percent of "Decreed Right 1955" (6)÷(1)× 100=(7)
<b>WESTERN UNIT</b>							
<u>Monk Hill Basin</u>							
La Canada Irrigation District	100.00	15.91	84.09		167.33	251.42	
Las Flores Water Company	249.00	277.19	- 28.19	11.32	26.73	- 1.46	0.58
Lincoln Avenue Water Company	567.00	671.11	- 104.11	18.36	- 79.58	- 183.69	32.39
Pasadena Cemetery Association	91.00	105.05	- 14.05	15.43	32.85	18.80	
Pasadena, City of	4,464.00	4,285.82	178.18		1,415.12	1,593.30	
Rubio Canon Land and Water Association	1,221.00	1,168.06	52.94		- 19.11	33.83	
Valley Water Company	<u>797.00</u>	<u>884.95</u>	<u>- 87.95</u>	11.03	<u>227.15</u>	<u>139.20</u>	
Subtotals	7,489.00	7,408.09	80.91		1,770.49	1,851.40	
<u>Pasadena Subarea</u>							
Alhambra, City of	1,031.00	902.13	128.87		1,174.11	1,302.98	
Arcadia, City of	1,167.00	1,179.83	- 12.83	1.09	- 50.70	- 63.53	5.44
California-American Water Company	2,299.00	2,489.18	- 190.18	8.27	- 51.35	- 241.53	10.50
Canyon Mutual Water Company	127.00	37.88	89.12		688.88	778.00	
East Pasadena Water Company	515.00	429.71	85.29		640.08	725.37	
Henry E. Huntington Library and Art Gallery	262.00	386.84	- 124.84	47.64	232.09	107.25	
Kinneloe Irrigation District	184.00 <sup>a/</sup>	148.04	35.96		1,496.56	1,532.52	
Mira Loma Mutual Water Company	148.00	83.77	64.23		472.61	536.84	
Monrovia, City of	951.00	681.31	269.69		- 211.95	57.74	
Osborn Constructors	12.00	30.83	- 18.83	156.91	399.99	381.16	
Pasadena, City of	8,343.00	8,729.88	- 386.88	4.63	-1,200.73	- 1,587.61	19.02
Royal Laundry and Dry Cleaning Company	155.00 <sup>b/</sup>	158.24	- 3.24	2.09	- 10.61	- 13.85	8.93
San Gabriel County Water District	1,091.00	1,072.71	18.29		- 16.94	1.35	
Sunny Slope Water Company	<u>1,558.00</u>	<u>1,028.74</u>	<u>529.26</u>		<u>- 8.67</u>	<u>470.59</u>	
Subtotals	17,843.00	17,359.09	483.91		3,503.37	3,987.28	
<b>TOTALS - WESTERN UNIT</b>	25,332.00	24,767.18	564.82		5,273.86	5,838.68	
Recapitulation for City of Pasadena (WESTERN UNIT)	12,807.00	13,015.70	- 208.70	1.62	214.39	5.69	
<b>EASTERN UNIT</b>							
<u>Santa Anita Subarea</u>							
Arcadia, City of	3,526.00	3,435.26	90.74		- 129.22	- 38.48	1.09
Sierra Madre, City of	<u>1,764.00</u>	<u>2,358.84<sup>c/</sup></u>	<u>- 594.84</u>	33.72	<u>667.16</u>	<u>72.32</u>	
<b>TOTALS - EASTERN UNIT</b>	<u>5,290.00</u>	<u>5,794.10</u>	<u>- 504.10</u>	9.52	<u>537.94</u>	<u>33.84</u>	
<b>GRAND TOTALS</b>	30,622.00	30,561.28	60.72		5,811.80	5,872.52	

a/ Decreed Right (229 acre-feet) less 45 acre-feet released to Exchange Pool.

b/ Decreed Right (110 acre-feet) plus 45 acre-feet received from Exchange Pool.

c/ Value equal to total water pumped. No salvage water was pumped during 1971-72.



**Table 6. GROSS WATER SUPPLY**  
**In acre-feet**

Party	Total ground water extractions		Total surface water diversions		Total water		Net water use within the basin
	Inside basin	Outside basin <sup>a/</sup>	Tributary to Raymond Basin	Nontributary to Raymond Basin <sup>a/</sup>	Imported <sup>b/</sup>	Exported	
Alhambra, City of	902.13	(11,072.80)			- 902.13		0.00
Arcadia, City of	4,615.09	(10,767.15)			- 322.67		4,292.42
California-American Water Company	2,489.18	( 4,857.01)			58.09 <sup>c/</sup>		2,547.27
Canyon Mutual Water Company	37.88						37.88
East Pasadena Water Company	429.71	( 1,766.71)			44.77 <sup>c/</sup>		474.48
Henry E. Huntington Library and Art Gallery	386.84						386.84
Kinneloa Irrigation District	148.04		227.98				376.02
La Canada Irrigation District	15.91			(259.02)	2,300.87		2,316.78
Las Flores Water Company	277.19		91.95		588.58		957.72
Lincoln Avenue Water Company	671.11		219.60		1,818.68		2,709.39
Mira Loma Mutual Water Company	83.77		125.74				209.51
Monrovia, City of	681.31	(7,007.41)		(484.12)	- 681.31		0.00
Osborn Constructors	30.83						30.83
Pasadena Cemetery Association	105.05						105.05
Pasadena, City of	13,015.70		1,159.65		22,343.51	-5,652.69	30,866.17
Royal Laundry and Dry Cleaning Company	158.24						158.24
Rubio Canon Land and Water Association	1,168.06		189.41		1,339.66		2,697.13
San Gabriel County Water District	1,072.71	(5,924.17)			-1,072.71		0.00
Sierra Madre, City of	2,358.84		458.56 <sup>d/</sup>				2,817.40
Sunny Slope Water Company	1,028.74	(3,438.20)			- 896.57		132.17
Valley Water Company	884.95				2,419.28		3,304.23
<b>TOTALS</b>	<b>30,561.28</b>		<b>2,472.89</b>		<b>30,913.44</b>	<b>-9,528.08</b>	<b>54,419.53</b>

a/ Used by parties in areas outside the Raymond Basin  
b/ Colorado River water except as noted.  
c/ Ground water from outside basin.  
d/ Does not include 1,014.35 acre-feet diverted for spreading to recharge the ground water.

### Nonparty Ground Water Extraction

The Watermaster continues to monitor non-party ground water extractions. Two non-party pumpers in the Western Unit continue to extract ground water:

Huntington-Sheraton Hotel                      16 acre-feet  
State Well No. 1N/12W-34N1

Las Encinas Hospital  
State Well No. 1N/12W-25K1                      101 acre-feet  
State Well No. 1N/12W-25L2

The hotel extractions were estimated by the plant engineer. The hospital based its water use on water meter readings. California Consumers Corporation did not pump water in the past year because of continued problems with its water well.

### Exports of Sewage

In the 1967-68 season, to measure sewage outflow, the Watermaster selected key stations on large sewage trunk lines leaving the basin across the Raymond Fault and was granted temporary permission to install recorders at each. Next season, the Watermaster installed F-type water stage recorders in 12 trunk lines for one week. See Figure 14 for locations.

During the past water year F-type water stage recorders were again installed in the trunk lines for one week during the month of June.

The sewage outflow appears to be increasing yearly. The records show two previous estimates as: 1938-39--5,900 acre-feet; 1951-52--9,500 acre-feet, and the computed outflow for the 1968-69

and 1970-71 seasons as 20,000 and 21,000 acre-feet, respectively. However, the past year's computed outflow is 17,778 acre-feet. This drop in outflow has not been satisfactorily interpreted and is therefore subject to revision.

### Flow at Key Stations

<u>Station</u>	<u>Acre-Feet</u>
1. Grand Avenue	2277
2. Garfield Avenue	2307
3. Los Robles Avenue	849
4. Old Mill Road	50
5. Virginia Road	1427
6. San Marino Avenue	3911
7. Sierra Madre Blvd.	102
8. N. Gainsborough St.	2106
9. Sunset Blvd.	2916
10. Old Ranch Road	363
11. Colorado Place	221
12. Colorado Blvd. at First Street	1249
Total	17,778

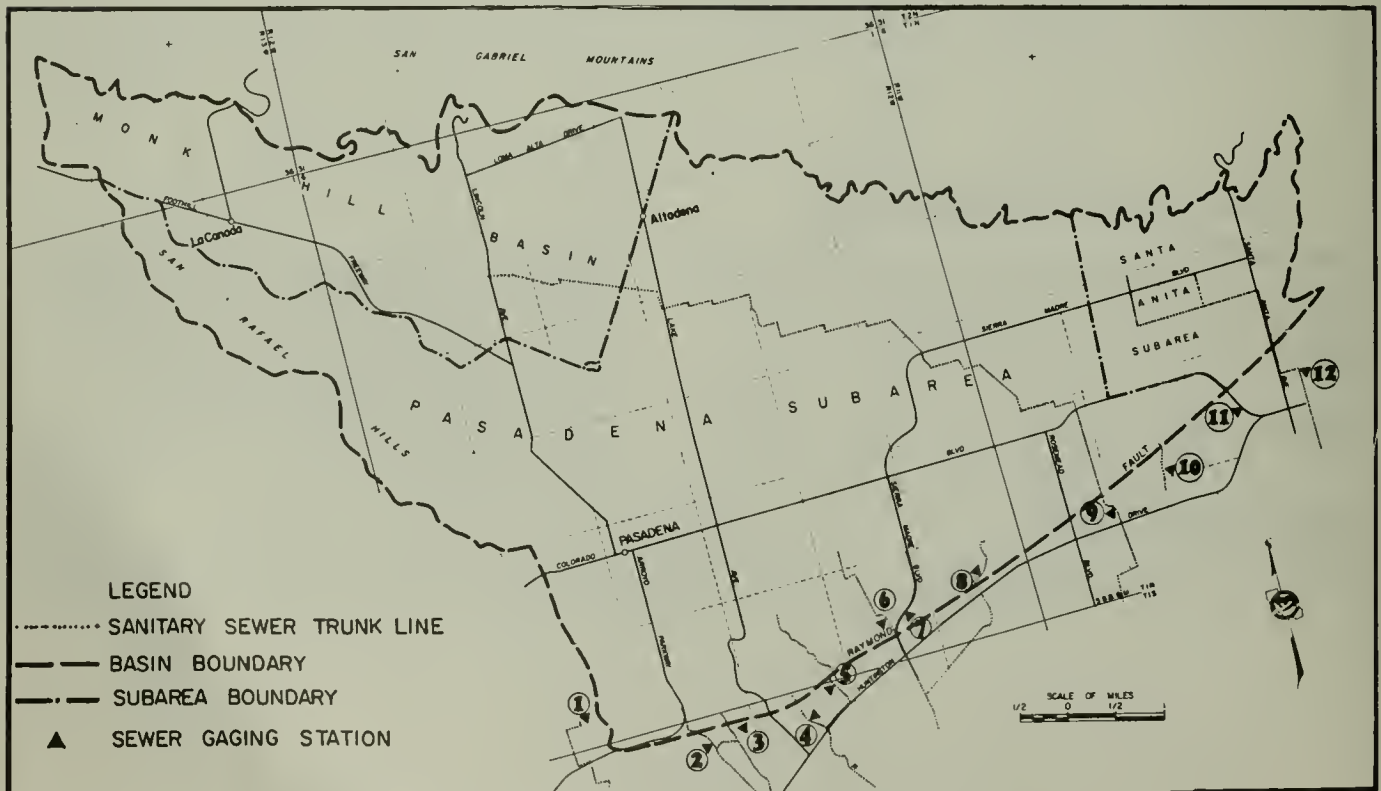


Figure 14. SEWAGE GAGING STATIONS

#### IV. ADMINISTRATION OF THE JUDGMENT

The Raymond Basin Advisory Board created by the Los Angeles County Superior Court assists and advises the Watermaster on matters of policy and budget preparation. The members are:

K. A. Johnson, Chairman, City of Pasadena  
E. D. Richards, Secretary, Monk Hill Basin  
L. Magoffin, Pasadena Subarea  
J. A. Grivich, Santa Anita Subarea  
B. Westcamper, Santa Anita Subarea

Messrs. Grivich and Westcamper alternate annually; Mr. Grivich serves in odd-numbered years and Mr. Westcamper serves in even-numbered years.

To manage the Basin effectively, the Board initiated a cooperative water resources management study during fiscal year 1967-68. Begun under an agreement signed March 21, 1968, by the Department of Water Resources and the City of Pasadena for all parties, the program has as its objective the design of a mathematical model of the Basin to simulate the dynamic behavior of a ground water basin and surface water facilities under various operations plans. The Basin was divided into 79 subzones so that the ground water level information gained would be sufficiently detailed for long-range planning.

Before projections could be made, the model's accuracy had to be verified against historic hydraulic data. Numerous alternative plans for using ground and surface water together were then imposed on the model. With the data thus obtained, a wide range of operational and economic information is being developed for management planning. The analysis was completed during the 1970-71 fiscal year and the findings of the investigation were published as Bulletin No. 104-6, dated June 1971.

During 1971-72 the model was used to study several plans of spreading diverted surface waters from Eaton Canyon and Arroyo Seco.

#### Exchange Pool

The Exchange Water Agreement authorized by the Court created an Exchange Pool to provide additional water rights for parties who lacked supplementary supplies. Membership in the pool is voluntary, and any party can join by signing the Agreement.

The Agreement was important during the first years of the Judgment when only Pasadena had access to Colorado River water. Now six parties receive such water through the facilities of the Foot-hill Municipal Water District and the importance of the Pool has declined considerably. The history of Exchange Pool transactions appears in Table 7.

Table 7. EXCHANGE WATER POOL TRANSACTIONS

Season	Quantity of water purchased, in acre-feet				Average cost, per acre-foot	
	Western Unit		Eastern Unit		Western Unit	Eastern Unit
	Monk Hill Basin	Pasadena Subarea	Santa Anita Subarea	Raymond Basin Area		
1944-45	925	53	0	978	\$ 29.88	
45-46	550	82	600	1,232	17.49	4.00
46-47	2,750	64	300	3,114	29.39	4.00
47-48	3,150	142	0	3,292	29.88	
48-49	5,150	115	0	5,265	32.16	
49-50	3,782	160	300	4,242	34.77	15.00
1950-51	3,938	96	700	4,734	31.82	15.00
51-52	3,929	100	0	4,029	35.55	15.00
52-53	3,929	72	0	4,001	31.62	
53-54	3,929	67	0	3,996	35.29	
54-55	3,929	215	0	4,144	34.35	
55-56	2,850	41	0	2,891	34.14	
56-57	1,700	10	0	1,710	27.89	
57-58	1,050	0	0	1,050	26.67	
58-59	0	70	0	70	20.00	
59-60	0	45	0	45	25.00	
1960-61	0	25	0	25	20.00	
61-62	0	40	600	640	18.00	31.00
62-63	0	25	0	25	17.00	
63-64	0	30	0	30	17.00	
64-65	0	35	200	235	17.00	64.55
65-66	0	25	300	325	17.00	37.58
66-67	0	0	0	0		
67-68	0	10	0	10	10.00	
68-69	0	40	0	40	25.00	
69-70	0	50	0	50	25.00	
1970-71	0	40	0	40	25.00	
71-72	0	45	0	45	25.00	
TOTALS	41,561	1,697	3,000	46,258		

**Table 8. ANNUAL AND FIVE-YEAR VARIATION FROM DECREED RIGHT <sup>a/</sup>**  
**In acre-feet**

Party	Year					Five-year variation
	1967-68	1968-69	1969-70	1970-71	1971-72 <sup>b/</sup>	
<u>WESTERN UNIT</u>						
<u>(Monk Hill Basin)</u>						
La Canada Irrigation District	- 135.29	+ 29.85	+ 56.32	+ 89.50	+ 84.09	+ 124.47
Las Flores Water Company	- 5.29	+ 56.74	- 46.92	+ 17.18	- 28.19	- 6.48
Lincoln Avenue Water Company	- 173.30	- 62.64	+ 3.54	+ 8.49	- 104.11	- 328.02
Pasadena Cemetery Association	- 17.35	- 8.08	- 23.06	- 18.37	- 14.05	- 80.91
Pasadena, City of	+ 1,092.58	- 995.10	- 526.94	- 1,105.44	+ 178.18	- 1,356.72
Rubio Canon Land and Water Association	- 287.09	- 145.24	- 266.64	+ 86.35	+ 52.94	- 559.68
Valley Water Company	- 44.66	+ 216.55	- 129.17	+ 124.51	- 87.95	+ 79.28
Subtotals	+ 429.60	- 907.92	- 932.87	- 797.78	+ 80.91	- 2,128.06
<u>(Pasadena subarea)</u>						
Alhambra, City of	+ 739.47	- 1.67	+ 261.98	- 108.79	+ 128.87	+ 1,019.86
Arcadia, City of	- 30.65	+ 53.89	+ 189.19	- 254.47	- 12.83	- 54.87
California-American Water Company	- 187.03	- 41.03	+ 22.70	+ 30.41	- 190.18	- 365.13
Canyon Mutual Water Company	+ 94.02	+ 95.85	+ 72.66	+ 76.84	+ 89.12	+ 428.49
East Pasadena Water Company	- 117.70	+ 154.73	+ 75.97	+ 12.67	+ 85.29	+ 210.96
Huntington Library and Art Gallery	+ 3.03	+ 46.80	- 20.65	- 40.19	- 124.84	- 135.85
Kinneloa Irrigation District	+ 73.32	- 2.45	+ 94.77	+ 99.16	+ 35.96	+ 300.76
Mira Loma Mutual Water Company	+ 89.77	+ 19.46	+ 44.83	+ 67.51	+ 64.23	+ 285.80
Monrovia, City of	- 2.46	- 39.27	- 99.31	- 226.16	+ 269.69	- 97.51
Osborn Constructors	- 10.87	- 7.08	- 15.33	- 18.72	- 18.83	- 70.83
Pasadena, City of	- 2,699.10	+ 2,041.14	- 1,468.97	+ 1,185.24	- 386.88	- 1,328.57
Royal Laundry and Dry Cleaning Company	- 49.95	- 0.18	+ 9.16	- 4.82	- 324.00	- 49.03
San Gabriel County Water District	- 21.64	+ 38.39	- 14.92	- 14.03	+ 18.29	+ 6.09
Sunny Slope Water Company	- 20.77	+ 4.71	- 19.40	- 53.24	+ 529.26	+ 440.56
Subtotals	- 2,140.56	+ 2,363.29	- 867.32	+ 751.41	+ 483.91	+ 590.73
<u>TOTALS - WESTERN UNIT</u>	<u>- 1,710.96</u>	<u>+ 1,455.37</u>	<u>- 1,800.19</u>	<u>- 46.37</u>	<u>+ 564.82</u>	<u>- 1,537.33</u>
Recapitulation for City of Pasadena	- 1,606.52	+ 1,046.04	- 1,995.91	+ 79.80	- 208.70	- 2,685.29
<u>EASTERN UNIT</u>						
<u>(Santa Anita Subarea)</u>						
Arcadia, City of	- 1,782.66	+ 565.32	- 332.61	- 186.80	+ 90.74	- 1,646.01
Sierra Madre, City of <sup>c/</sup>	+ 41.36	+ 212.91	+ 177.44	- 134.75	- 594.84	- 297.88
<u>TOTALS - EASTERN UNIT</u>	<u>- 1,741.30</u>	<u>+ 778.23</u>	<u>- 155.17</u>	<u>- 321.55</u>	<u>- 504.10</u>	<u>- 1,943.89</u>
<u>GRAND TOTALS</u>	<u>- 3,452.26</u>	<u>+ 2,233.60</u>	<u>- 1,955.36</u>	<u>- 367.92</u>	<u>+ 60.72</u>	<u>- 3,481.22</u>

<sup>a/</sup> Difference between extractions and decreed rights as shown in past reports. Carryover balances are not accounted for in this tabulation. Overextractions are shown as negative (-) values.

<sup>b/</sup> Values from Column (3), Table 5.

<sup>c/</sup> Excludes salvage water pumped.



Each April the Watermaster mails an Exchange Pool form to all parties, opening the Pool to inter-member water right leasing. This year, the Royal Laundry and Dry Cleaning Company leased 45 acre-feet of water for \$25 per acre-foot from the Kinneloa Irrigation District. The total cost of the water was \$1,125.

Water Rights may also be leased or sold outright. No sale agreements were made this year among the parties.

#### Annual Variation in Extraction

The annual amount extracted by each party and the percentage variation from the "Decreed Right 1955" are shown in Table 5 (page 24). Exchange water sold or bought is accounted for in the Decreed Right. Barring emergencies, the Judgment prohibits annual extractions

**Table 9. VARIATION OF ANNUAL EXTRACTIONS FROM SAFE YIELD**

July 1 through June 30	Annual extractions				
	Monk Hill : Pasadena Basin : Subarea	Subtotal	Eastern Unit <sup>a/</sup>	Raymond Basin Area	
1950-51	7,098	13,418	20,516	2,861	23,377
51-52	5,903	10,750	16,653	2,041	18,694
52-53	5,973	12,471	18,444	4,535	22,979
53-54	6,283	11,765	18,048	4,163	22,211
54-55	6,420	12,783	19,203	4,399	23,602
Average annual extractions	6,363	11,683	18,046	3,639	21,685
Safe yield 1938 <sup>b/</sup>	6,039	11,621	17,660	3,791	21,451
Average difference <sup>c/</sup>	+ 324	+ 62	+ 386	- 152	+ 234
1955-56	6,319	14,060	20,379	4,687	25,066
56-57	7,057	17,474	24,531	5,685	30,216
57-58	5,916	16,054	21,970	3,823	25,793
58-59	8,160	18,027	26,187	7,018	33,205
59-60	7,992	16,428	24,420	4,858	29,278
1960-61	7,141	18,796	25,937	3,342 <sup>d/</sup>	29,279
61-62	6,742	18,419	25,161	3,496 <sup>d/</sup>	28,657
62-63	8,084	16,630	24,714	5,268	29,982
63-64	7,937	17,469	25,406	4,778	30,184
64-65	7,450	17,682	25,132	3,592 <sup>d/</sup>	28,731
65-66	6,583	19,397	25,980	3,388 <sup>d/</sup>	29,368
66-67	5,096	17,241	22,337	3,369	25,706
67-68	7,059	19,984	27,043	7,031	34,074
68-69	8,397	15,490	23,887	4,511	28,398
69-70	8,422	18,710	27,132	5,445	32,577
1970-71	8,287	17,091	25,378	5,612	30,990
71-72	7,408	17,359	24,767	5,794	30,561
Average annual extractions	7,297	17,430	24,727	4,806	29,533
Safe yield 1952 <sup>e/</sup>	7,489	17,843	25,332	5,290	30,622
Average difference <sup>c/</sup>	- 192	- 413	- 605	- 484	- 1,089

a/ Excludes salvaged water pumped by City of Sierra Madre.

b/ Effective 1944-45 through 1954-55 and excludes nonparty pumpage.

c/ Extractions greater than safe yield: (+)

Extractions less than safe yield: (-).

d/ Reduction in extraction by order of Watermaster.

e/ Effective 1955-56 through present and excludes nonparty pumpage.

that exceed 120 percent of the "Decreed Right 1955", plus or minus exchange water. Three parties -- Huntington Library and Art Gallery, City of Sierra Madre, and Osborn Constructors -- appeared to exceed this limitation. In reality, the balances carried from the previous season cancelled any overextractions for these three parties; by applying the previous season's balances, then Lincoln Avenue Water Company exceeds this limitation.

Table 5 also shows the amount extracted by the City of Pasadena in the Monk Hill Basin and the Pasadena Subarea. However, the City's "Decreed Right 1955" is the total volume of water that it can take from the Western Unit; this, therefore, is separately recapitulated.

#### Five-Year Variation in Extraction

The Judgment also states that the total amount pumped or taken by any party in any 60 consecutive months (five years) cannot exceed the amount released to it by the Exchange Agreement and five times the Party's decreed right. Thus, the limit for all parties equals five times the "Decreed Right" 1955". Table 8 summarizes annual variation from the "Decreed Right 1955" and the cumulative five-year variation. Parties with negative (-) value under "Five-year variation" column exceeded this limitation.

#### Variations from Safe Yield

Table 9 summarizes annual extractions from 1950-51 to the present and compares average annual extraction with safe yield. It also shows years in which extractions exceeded safe yield. At present, average annual extractions in each subarea are less than safe yield, an occurrence that is undoubtedly aided by the above-average total precipitation during the last six years. However, the second lowest precipitation of record last year and below average for the past three years, has narrowed the gap.



## V. ADMINISTRATIVE COSTS

Under the provisions of Section 4201, California Water Code, the cost of watermaster service is shared equally by the State and the parties to the Judgment.

Before each December 15, the Watermaster in cooperation with the Raymond Basin Advisory Board, prepares the budget for the fiscal year beginning the next July 1. The 1971-72 budget, approved by the Board on December 9, 1970, is shown in Table 10.

The Raymond Basin budget contains two sections (Table 11). Part "A" supports the cost of administering the Raymond Basin Judgment. Each party's share of that cost is directly proportionate to the party's "Decreed Right 1955".

Table 10. APPROVED BUDGET FOR 1971-72 SEASON

PART "A" - Cost Other Than Exchange Water Program	
Salaries and wages	\$20,592
Operating expenses	6,210
Retirement and compensation plus administration	<u>4,808</u>
Total Amount	\$31,610
One-half payable by State	\$15,805
One-half payable by parties	15,805
Less estimated carryover from 1970-71	<u>- 2,000</u>
Total collectible from parties	\$13,805
PART "B" - Cost of Exchange Water Program	
Salaries and wages	\$ 80
Retirement and compensation plus administration	<u>20</u>
Total Amount	\$ 100
One-half payable by State	\$ 50
One-half payable by participants in release and receipt of water	50
TOTAL ESTIMATED COST OF Watermaster Service - July 1, 1971 through June 30, 1972	<u>\$31,710</u>

Table 11. APPORTIONMENT OF SHARES IN 1971-72 BUDGET

Part "A"

Party	"Decreed Right 1955", in acre-feet	Apportionment paid
Alhambra, City of	1,031	\$ 464.80
Arcadia, City of	4,693	2,115.70
California-American Water Company	2,299	1,036.44
Canyon Mutual Water Company	127	57.25
East Pasadena Water Company, Ltd.	515	232.17
Henry E. Huntington Library and Art Gallery	262	118.11
Kinneloa Irrigation District	229	103.24
La Canada Irrigation District	100	45.08
Las Flores Water Company	249	112.25
Lincoln Avenue Water Company	567	255.62
Mira Loma Mutual Water Company	148	66.72
Monrovia, City of	951	428.73
Osborn Constructors	12	5.41
Pasadena Cemetery Association	91	41.02
Pasadena, City of	12,807	5,773.65
Royal Laundry and Dry Cleaning Company	110	49.59
Rubio Canon Land and Water Association	1,221	550.45
San Gabriel County Water District	1,091	491.84
Sierra Madre, City of	1,764	795.25
Sunny Slope Water Company	1,558	702.38
Valley Water Company	<u>797</u>	<u>359.30</u>
TOTALS	30,622	\$ 13,805.00
Part "B"		
Party	Amount of water exchanged, in acre-feet	Amount paid
Kinneloa Irrigation District	45	\$ 25.00
Royal Laundry and Dry Cleaning Company	45	<u>25.00</u>
TOTALS		\$ 50.00

Part "B" supports the cost of operating the Raymond Basin Exchange Pool. Only the parties that participated in the Pool were charged for that cost. Each party's share of the 1971-72 budget is shown in Table 11. No penalties were assessed for late payments.

Income and expenditures under both parts of the budget appear in Table 12. Credit or Debit balances shown there are carried forward into the next fiscal year, as directed by Sections 4358 and 4406 of the State Water Code and Paragraph XIII of the Judgment.

Costs of Determining Salvage  
Credit for City of Sierra Madre

On June 30, 1971, a deficit of \$7 remained in the special account established to pay the cost of determining amounts of water salvaged by the City of Sierra Madre. During the 1971-72 season, on request, the City deposited \$400 to this account. Expenditures during this season totaled \$389.31. A credit balance of \$3.69 remained in the account on June 30, 1972.

Table 12. STATEMENT OF 1971-72 INCOME AND EXPENDITURES

Item	Parties	State	State and Parties
<u>Income</u>			
From Part "A" of the budget	\$13,805.00	\$15,805.00	\$29,610.00
From Part "B" of the budget	50.00	50.00	100.00
Carryover from 1970-71	<u>1,328.73<sup>a/</sup></u>	<u>0.00</u>	<u>1,328.73</u>
Total Income	\$15,183.73	\$15,855.00	\$31,038.73
<u>Expenditures</u>			
From Part "A" of the budget			
Salaries and wages	\$10,123.77	\$10,123.77	\$20,247.54
Operating expenses			
Miscellaneous indirect costs <sup>b/</sup>	1,851.97	1,851.96	3,703.93
Travel in State	69.59	69.60	139.19
Mobil Equipment rental	231.04	231.04	462.08
Printing plates and covers for annual report	57.47	57.48	114.95
Electronic machine computing	986.09	986.09	1,972.18
From Part "B" of the budget			
Salaries and wages	40.00	40.00	80.00
Operating expenses	<u>10.00</u>	<u>10.00</u>	<u>20.00</u>
Total Expenditures	<u>\$13,369.93</u>	<u>\$13,369.94</u>	<u>\$26,739.87</u>
BALANCE	<u>\$ 1,813.80<sup>c/</sup></u>	<u>\$ 2,485.06</u>	<u>\$ 4,298.86</u>
<sup>a/</sup> Adjusted for 1970-71 delayed charges and credits. <sup>b/</sup> Rent, utilities, auto rental, janitorial services, communications, retirement, employees' health plan, and workmen's compensation insurance. <sup>c/</sup> Subject to delayed charges and credits.			



APPENDIX A

**MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS  
OPERATED BY THE WATERMASTER  
1971-72 WATERMASTER YEAR**

# APPENDIX A: MEAN DAILY DISCHARGE AT SURFACE RUNOFF STATIONS OPERATED BY THE WATERMASTER. 1971-72 WATERMASTER YEAR

STATION: ARCADIA WASH										STATION NO.		WATERMASTER YEAR	
MEAN DAILY DISCHARGE in second-foot										75450		1971-72	
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.20	.09	.13	.14	.16	.09	.15	.11	.15	.18	.13	.11	1
2	.16	.11	.14	.15	.17	.07	.13	.08	.17	.17	.07	.15	2
3	.21	.17	.13	.16	.15	.13	.14	.07	.18	.19	.09	.15	3
4	.14	.10	.13	.17	.14	.11	.13	.08	.20	.18	.10	.15	4
5	.14	.10	.16	.14	.14	.09	.13	.10	.20	.18	.10	.15	5
6	.15	.09	.15	.18	.14	.10	.12	.08	.20	.17	.10	.14	6
7	.22	.09	.15	.14	.11	.11	.12	.09	.19	.15	.10	.12	7
8	.25	.08	.17	.18	.17	.11	.12	.09	.18	.17	.11	.12	8
9	.26	.08	.17	.15	.16	.12	.12	.09	.20	.17	.12	.11	9
10	.24	.08	.18	.15	.18	.13	.14	.08	.20	.18	.12	.09	10
11	.31	.10	.14	.14	.20	.13	.11	.08	.19	.18	.11	.09	11
12	.31	.09	.16	.16	.19	.13	.13	.08	.18	.17	.11	.11	12
13	.31	.09	.17	.13	.15	.15	.14	.06	.19	.18	.10	.11	13
14	.30	.09	.15	.16	.14	.11	.13	.09	.16	.19	.10	.10	14
15	.29	.09	.15	.18	.15	.09	.13	.09	.17	.17	.10	.11	15
16	.31	.09	.16	.21	.12	.09	.13	.11	.16	.17	.10	.11	16
17	.29	.09	.17	.16	.11	.09	.13	.11	.16	.21	.10	.13	17
18	.29	.12	.15	.17	.10	.08	.12	.10	.14	.25	.11	.13	18
19	.24	.12	.14	.13	.10	.08	.13	.11	.13	.18	.11	.14	19
20	.27	.11	.16	.14	.10	.07	.15	.12	.15	.16	.10	.13	20
21	.27	.11	.16	.15	.12	.08	.13	.11	.15	.15	.10	.14	21
22	.26	.09	.14	.17	.14	.11	.12	.15	.15	.17	.10	.18	22
23	.21	.10	.16	.18	.14	.12	.11	.13	.16	.17	.10	.17	23
24	.19	.10	.14	.23	.13	.45	.12	.14	.16	.19	.11	.16	24
25	.18	.10	.16	.15	.14	.49	.13	.13	.15	.20	.11	.16	25
26	.17	.09	.15	.14	.13	.33	.14	.17	.15	.22	.11	.14	26
27	.13	.10	.14	.14	.14	.17	.10	.12	.18	.22	.12	.14	27
28	.15	.11	.16	.14	.13	.47	.10	.14	.17	.22	.13	.14	28
29	.14	.12	.18	.15	.14	.23	.10	.17	.16	.21	.15	.18	29
30	.12	.12	.19	.15	.14	.14	.10		.20	.21	.15	.19	30
31	.11	.13		.16		.13	.11		.21		.16		31
MEAN	2.6	.5	1.1	1.4	1.1	6.8	.7	.6	1.5	1.7	.6	.9	MEAN
MAX.	5.2	.7	1.6	4.4	6.6	59.3	1.0	1.7	2.5	6.0	1.2	1.9	MAX.
MIN.	.6	.4	.8	.8	.5	.4	.5	.7	.8	1.1	.4	.5	MIN.
ACFT	102.3	31.4	66.1	84.3	65.8	416.5	45.3	35.7	90.7	100.4	36.8	53.1	ACFT

## WATERMASTER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM					MINIMUM					TOTAL ACRE-Feet
	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	
1.63	294.85	1.20	12	25	133	.20	.04	2	12	640	1188.40

STATION: ARROYO SECO										STATION NO.		WATERMASTER YEAR	
MEAN DAILY DISCHARGE in second-foot										62250		1971-72	
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	NO FLOW	NO FLOW	.21	.06	.22	.05	.24	.00	.00	.03	.01	NO FLOW	1
2	NO FLOW	NO FLOW	.17	.12	.19	.08	.20	.00	.00	.02	.05	NO FLOW	2
3	NO FLOW	NO FLOW	.18	.08	.19	.11	.15	.10	.00	.02	.02	NO FLOW	3
4	NO FLOW	NO FLOW	.18	.09	.20	.03	.13	.12	NO FLOW	NO FLOW	.02	NO FLOW	4
5	NO FLOW	NO FLOW	.18	.14	.19	.01	.07	.03	.04	NO FLOW	.02	NO FLOW	5
6	NO FLOW	NO FLOW	.17	.19	.19	.05	.05	.02	.08	NO FLOW	.02	NO FLOW	6
7	NO FLOW	NO FLOW	.17	.19	.20	.08	.06	.00	.02	NO FLOW	.00	NO FLOW	7
8	NO FLOW	NO FLOW	.17	.20	.21	.07	.06	.04	.01	NO FLOW	NO FLOW	NO FLOW	8
9	NO FLOW	NO FLOW	.17	.19	.21	.07	.05	.16	NO FLOW	NO FLOW	NO FLOW	NO FLOW	9
10	NO FLOW	.21	.17	.19	.20	.19	.05	.06	.01	NO FLOW	NO FLOW	NO FLOW	10
11	NO FLOW	.20	.17	.19	.20	.04	.02	.04	.05	NO FLOW	.01	NO FLOW	11
12	NO FLOW	.20	.17	.08	.20	.04	.01	.07	.03	NO FLOW	NO FLOW	NO FLOW	12
13	NO FLOW	.19	.16	.07	.20	.05	.02	.05	.04	.01	NO FLOW	.01	13
14	NO FLOW	.19	.16	.06	.20	.01	.02	.04	.03	.00	NO FLOW	NO FLOW	14
15	NO FLOW	.19	.16	.08	.19	.00	.01	.03	.01	.02	NO FLOW	NO FLOW	15
16	NO FLOW	.19	.16	.15	.19	.01	.04	.04	.03	.02	NO FLOW	NO FLOW	16
17	NO FLOW	.19	.17	.19	.20	.00	.03	.04	.01	.02	NO FLOW	NO FLOW	17
18	NO FLOW	.22	.18	.09	.20	.00	.01	.01	NO FLOW	.01	NO FLOW	NO FLOW	18
19	NO FLOW	.22	.18	.05	.21	.00	.01	.00	NO FLOW	.03	NO FLOW	NO FLOW	19
20	NO FLOW	.23	.18	.07	.22	.00	.00	.00	NO FLOW	.01	NO FLOW	NO FLOW	20
21	NO FLOW	.23	.17	.04	.20	.00	.00	.00	NO FLOW	.00	NO FLOW	NO FLOW	21
22	NO FLOW	.23	.16	.02	.22	.29	.00	.00	NO FLOW	NO FLOW	NO FLOW	NO FLOW	22
23	NO FLOW	.23	.16	.01	.20	.31	.00	.09	.05	NO FLOW	NO FLOW	NO FLOW	23
24	NO FLOW	.22	.17	.16	.20	.64	.00	.00	.02	.01	NO FLOW	NO FLOW	24
25	NO FLOW	.22	.12	.12	.21	.79	.00	.00	NO FLOW	.01	NO FLOW	NO FLOW	25
26	NO FLOW	.22	.18	.16	.20	.74	.00	.00	NO FLOW	.00	NO FLOW	NO FLOW	26
27	NO FLOW	.25	.15	.22	.16	.74	.02	.00	NO FLOW	NO FLOW	NO FLOW	NO FLOW	27
28	NO FLOW	.25	.16	.19	.19	.64	.00	.00	NO FLOW	NO FLOW	NO FLOW	NO FLOW	28
29	NO FLOW	.24	.17	.17	.19	.44	.00	.00	NO FLOW	NO FLOW	NO FLOW	NO FLOW	29
30	NO FLOW	.25	.16	.17	.17	.32	.00		NO FLOW	.00	NO FLOW	.00	30
31	NO FLOW	.22		.17		.26	.00		.01		.00		31
MEAN	0	1.1	.9	.8	1.3	5.6	.2	.2	.1	0	0	0	MEAN
MAX.	0	2.1	1.4	1.7	1.6	35.0	1.9	1.7	.4	.1	.2	0	MAX.
MIN.	0	0	.8	0	.9	0	0	0	0	0	0	0	MIN.
ACFT	0	66.2	52.4	47.5	74.8	342.1	14.1	12.7	4.4	2.0	1.5	.1	ACFT

## WATERMASTER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM					MINIMUM					TOTAL ACRE-Feet
	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	
.85	72.27	1.14	12	24	2002	0	0	7	1	0	617.80

# APPENDIX A (continued)

STATION: BROADWAY DRAIN													
MEAN DAILY DISCHARGE in second-feet													
										STATION NO.	WATERMASTER YEAR		
										75135	1971-72		
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.14	.14	.15	.17	.18	.14	.20	.09	.12	.12	.13	.10	1
2	.21	.13	.16	.19	.15	.16	.20	.10	.13	.12	.14	.12	2
3	.18	.12	.17	.18	.15	.21	.17	.11	.13	.10	.13	.12	3
4	.14	.14	.16	.14	.15	.16	.12	.09	.15	.10	.13	.13	4
5	.17	.11	.16	.16	.14	.16	.12	.10	.15	.11	.13	.11	5
6	.17	.13	.17	.18	.14	.14	.12	.09	.13	.11	.14	.11	6
7	.16	.10	.19	.19	.15	.14	.12	.10	.16	.11	.13	.15	7
8	.15	.12	.16	.19	.15	.13	.13	.10	.08	.11	.12	.14	8
9	.15	.13	.14	.14	.15	.14	.11	.06	.11	.13	.11	.11	9
10	.16	.11	.19	.18	.15	.13	.11	.08	.11	.12	.11	.12	10
11	.16	.11	.17	.17	.16	.11	.11	.10	.11	.12	.11	.12	11
12	.16	.14	.15	.14	.23	.13	.11	.10	.11	.11	.11	.11	12
13	.16	.13	.15	.18	.15	.14	.13	.10	.10	.12	.11	.10	13
14	.16	.11	.15	.19	.14	.17	.12	.09	.08	.14	.12	.10	14
15	.15	.13	.15	.19	.14	.17	.11	.06	.09	.14	.11	.10	15
16	.15	.12	.17	.21	.15	.17	.10	.05	.09	.14	.11	.10	16
17	.15	.14	.16	.18	.15	.16	.14	.03	.10	.12	.11	.10	17
18	.15	.18	.15	.18	.16	.16	.19	.05	.10	.11	.11	.10	18
19	.17	.24	.16	.18	.17	.15	.16	.06	.09	.14	.13	.10	19
20	.17	.18	.14	.14	.17	.16	.15	.05	.08	.14	.13	.10	20
21	.15	.17	.16	.18	.16	.18	.16	.05	.08	.14	.13	.13	21
22	.14	.15	.16	.18	.16	.35	.15	.01	.08	.14	.13	.10	22
23	.14	.14	.16	.18	.16	.34	.14	.05	.10	.14	.13	.10	23
24	.14	.10	.15	.18	.16	.64	.15	.10	.09	.12	.13	.11	24
25	.14	.11	.16	.18	.15	.40	.11	.10	.09	.13	.13	.12	25
26	.14	.12	.18	.18	.14	.23	.11	.12	.10	.14	.12	.11	26
27	.14	.12	.16	.18	.16	.46	.14	.12	.09	.14	.13	.09	27
28	.14	.12	.14	.18	.15	.31	.14	.13	.09	.12	.14	.10	28
29	.15	.11	.15	.14	.15	.20	.10	.12	.09	.11	.13	.10	29
30	.15	.12	.18	.18	.14	.20	.09		.12	.13	.12	.10	30
31	.16	.12		.19		.20	.10		.12		.11		31
MEAN	1.6	1.3	2.0	2.7	1.6	7.0	1.3	.4	.6	.9	.8	.7	MEAN
MAX.	4.2	6.0	3.3	4.9	8.1	55.2	3.5	1.0	3.0	2.0	1.2	4.1	MAX.
MIN.	1.0	.5	1.2	2.0	1.1	.5	.3	0	.2	.4	.5	.4	MIN.
ACFT	111.0	78.0	118.2	166.8	106.7	429.0	77.3	22.8	38.3	52.7	49.9	39.4	ACFT

## WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-Feet
1.77	234.13	1.67	12	24	1221	0	0	2	22	1055	1290.10

STATION: EATON CREEK NEAR PASADENA													
MEAN DAILY DISCHARGE in second-feet													
										STATION NO.	WATERMASTER YEAR		
										75360	1971-72		
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.11	.00	.21	.13	.06	.09	.38	.07	.03	.10	.12	.10	1
2	.16	.06	.20	.12	.07	.10	.36	.05	.07	.10	.12	.09	2
3	.17	.07	.18	.15	.07	.12	.30	.00	.07	.10	.12	.08	3
4	.08	.07	.14	.17	.07	.14	.26	.06	.08	.10	.12	.10	4
5	.00	.07	.18	.17	.07	.15	.25	.14	.08	.10	.12	.09	5
6	.00	.08	.14	.15	.07	.15	.23	.17	.08	.10	.12	.08	6
7	.00	.09	.14	.12	.07	.13	.20	.16	.06	.13	.12	.08	7
8	.00	.08	.12	.12	.07	.14	.18	.15	.08	.12	.12	.08	8
9	.00	.09	.12	.12	.07	.15	.17	.15	.08	.10	.12	.08	9
10	.00	.10	.14	.12	.07	.14	.16	.14	.08	.10	.12	.07	10
11	.00	.10	.16	.12	.07	.13	.15	.07	.08	.10	.12	.08	11
12	.00	.09	.16	.12	.08	.15	.15	.14	.09	.10	.12	.09	12
13	.00	.09	.16	.12	.09	.15	.15	.15	.09	.13	.12	.13	13
14	.00	.08	.15	.12	.09	.15	.14	.15	.09	.12	.12	.13	14
15	.00	.08	.15	.12	.12	.15	.14	.15	.09	.11	.12	.12	15
16	.00	.08	.16	.12	.12	.15	.13	.16	.09	.12	.12	.12	16
17	.00	.09	.16	.12	.12	.15	.12	.17	.09	.12	.12	.12	17
18	.00	.09	.17	.12	.12	.16	.12	.16	.09	.13	.12	.12	18
19	.00	.08	.14	.12	.12	.16	.12	.16	.10	.14	.13	.16	19
20	.00	.08	.17	.12	.12	.16	.12	.07	.10	.12	.15	.16	20
21	.00	.07	.16	.12	.12	.14	.11	.41	.10	.12	.17	.13	21
22	.00	.07	.16	.12	.12	.15	.11	.00	.10	.12	.14	.11	22
23	.00	.07	.16	.12	.12	.14	.11	.00	.10	.12	.18	.10	23
24	.00	.08	.16	.12	.12	.66	.10	.00	.10	.12	.14	.10	24
25	.00	.08	.17	.12	.12	.75	.10	.00	.10	.12	.16	.10	25
26	.00	.07	.16	.12	.12	.74	.10	.00	.10	.12	.14	.11	26
27	.00	.07	.16	.12	.12	.73	.09	.00	.10	.12	.11	.11	27
28	.00	.07	.16	.11	.12	.66	.09	.00	.10	.12	.10	.11	28
29	.00	.08	.14	.09	.12	.59	.08	.00	.10	.12	.10	.12	29
30	.00	.04	.16	.09	.12	.49	.08		.10	.12	.10	.11	30
31	.00	.04		.10		.44	.08		.10		.10		31
MEAN	.1	.2	1.1	.6	.4	3.4	1.0	.7	.2	.5	.7	.4	MEAN
MAX.	1.1	.4	2.0	1.1	.6	22.9	4.0	6.8	.3	.9	1.2	1.0	MAX.
MIN.	0	0	.9	.2	.1	.2	.1	0	.1	.3	.3	.1	MIN.
ACFT	5.9	9.8	63.2	37.8	22.3	210.8	61.6	40.1	14.5	30.5	40.1	24.4	ACFT

## WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-Feet
.77	83.25	1.65	12	24	1536	0	0	7	3	2402	561.00

# APPENDIX A (continued)

STATION: EATON WASH													STATION NO.		WATERMASTER YEAR	
MEAN DAILY DISCHARGE in second-foot													75300		1971-72	
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY			
1	.05	.02	.10	.10	.15	.16	.04	.05	.07	.06	.05	.04	1			
2	.15	.07	.09	.10	.14	.22	.03	.06	.08	.06	.08	.08	2			
3	.04	.04	.09	.10	.13	.14	.04	.04	.09	.07	.04	.05	3			
4	.04	.04	.07	.10	.15	.19	.03	.04	.07	.08	.07	.06	4			
5	.04	.09	.07	.09	.13	.14	.04	.09	.07	.07	.06	.04	5			
6	.05	.04	.06	.04	.13	.18	.04	.05	.04	.06	.05	.09	6			
7	.04	.04	.05	.07	.11	.17	.04	.06	.04	.05	.05	.08	7			
8	.01	.09	.07	.06	.15	.17	.04	.07	.07	.04	.06	.10	8			
9	.05	.04	.07	.05	.14	.18	.05	.04	.07	.04	.06	.06	9			
10	.05	.09	.06	.05	.12	.12	.05	.07	.09	.04	.07	.04	10			
11	.05	.09	.05	.06	.22	.07	.05	.06	.08	.05	.07	.04	11			
12	.05	.09	.06	.06	.20	.05	.05	.05	.08	.05	.06	.06	12			
13	.05	.04	.07	.06	.18	.10	.05	.05	.08	.05	.05	.06	13			
14	.05	.04	.04	.05	.17	.05	.05	.07	.08	.05	.05	.06	14			
15	.04	.04	.09	.04	.17	.05	.04	.07	.08	.03	.06	.06	15			
16	.06	.09	.09	.06	.17	.06	.04	.04	.07	.03	.08	.07	16			
17	.06	.10	.09	.08	.17	.06	.05	.04	.06	.04	.06	.05	17			
18	.04	.10	.04	.06	.18	.04	.04	.04	.06	.06	.06	.04	18			
19	.06	.09	.04	.08	.19	.04	.04	.06	.06	.07	.08	.06	19			
20	.04	.09	.04	.05	.19	.06	.04	.05	.07	.05	.04	.06	20			
21	.07	.08	.04	.03	.19	.04	.04	.05	.07	.05	.05	.05	21			
22	.04	.04	.08	.03	.18	.28	.04	.04	.07	.04	.06	.07	22			
23	.07	.10	.08	.03	.14	.04	.03	.07	.08	.03	.06	.06	23			
24	.06	.10	.08	.09	.14	.50	.03	.07	.07	.04	.07	.05	24			
25	.06	.10	.04	.04	.18	.34	.05	.07	.06	.06	.08	.05	25			
26	.04	.12	.04	.06	.18	.07	.04	.07	.04	.05	.08	.05	26			
27	.06	.11	.07	.06	.17	.36	.05	.06	.07	.04	.07	.06	27			
28	.04	.11	.07	.04	.17	.19	.05	.04	.07	.04	.06	.07	28			
29	.04	.11	.09	.09	.17	.04	.04	.04	.04	.04	.05	.05	29			
30	.04	.11	.09	.09	.16	.05	.05		.09	.03	.06	.06	30			
31	.06	.12		.14		.04	.04		.07		.07		31			
MEAN	.2	.4	.2	.4	2.0	4.6	.1	.2	.2	.1	.2	.2	MEAN			
MAX.	1.4	1.0	.5	2.7	11.1	43.8	.1	.5	.4	1.1	.6	.8	MAX.			
MIN.	0	0	.1	0	.6	0	0	.1	.1	0	.1	0	MIN.			
ACFT	10.0	25.5	14.6	21.8	121.7	281.2	3.5	10.4	14.6	7.8	11.0	11.5	ACFT			

## WATERMASTER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM					MINIMUM					TOTAL ACRE-FEET
	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	
.73	194.72	.98	12	24	1119	0	0	8	21	2243	533.40

STATION: FLINT WASH													STATION NO.		WATERMASTER YEAR	
MEAN DAILY DISCHARGE in second-foot													62190		1971-72	
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY			
1	.11	.14	.09	.12	.18	.20	.33	.14	.05	.06	.30	.00	1			
2	.07	.13	.09	.10	.13	.31	.27	.13	.05	.03	.31	.05	2			
3	.04	.13	.09	.09	.12	.24	.23	.11	.05	.15	.30	.10	3			
4	.09	.11	.04	.11	.22	.21	.16	.13	.03	.14	.32	.11	4			
5	.04	.10	.04	.09	.24	.21	.16	.14	.01	.15	.31	.12	5			
6	.04	.13	.09	.09	.24	.21	.16	.14	.00	.17	.32	.09	6			
7	.09	.12	.07	.10	.23	.23	.16	.13	NO FLOW	.16	.33	.27	7			
8	.04	.16	.04	.11	.23	.22	.17	.14	NO FLOW	.17	.33	.19	8			
9	.07	.14	.09	.12	.22	.22	.17	.11	NO FLOW	.18	.33	.10	9			
10	.04	.15	.10	.11	.23	.21	.16	.11	NO FLOW	.17	.32	.09	10			
11	.10	.15	.04	.10	.36	.21	.16	.10	NO FLOW	.18	.32	.05	11			
12	.12	.15	.09	.09	.66	.23	.15	.10	NO FLOW	.25	.30	.00	12			
13	.11	.11	.11	.10	.30	.29	.16	.11	NO FLOW	.19	.31	.00	13			
14	.10	.17	.10	.11	.29	.21	.18	.11	NO FLOW	.29	.32	.02	14			
15	.10	.09	.10	.10	.29	.21	.16	.10	.04	.33	.29	.02	15			
16	.10	.10	.10	.24	.29	.21	.15	.10	NO FLOW	.33	.30	.02	16			
17	.09	.10	.11	.04	.29	.21	.14	.10	NO FLOW	.28	.26	.02	17			
18	.09	.11	.11	.07	.29	.21	.18	.10	NO FLOW	.34	.27	.02	18			
19	.12	.11	.11	.10	.24	.21	.13	.10	NO FLOW	.42	.34	.05	19			
20	.10	.11	.11	.12	.28	.21	.14	.09	NO FLOW	.40	.28	.04	20			
21	.11	.14	.11	.19	.28	.21	.13	.09	NO FLOW	.41	.17	.03	21			
22	.12	.11	.11	.04	.24	1.05	.13	.07	NO FLOW	.41	.10	.13	22			
23	.11	.09	.10	.10	.29	.39	.12	.04	NO FLOW	.41	.09	.09	23			
24	.10	.11	.10	.67	.24	2.04	.12	.04	NO FLOW	.41	.09	.10	24			
25	.11	.13	.10	.23	.30	1.62	.11	.04	NO FLOW	.41	.10	.10	25			
26	.10	.15	.11	.20	.28	.74	.11	.05	NO FLOW	.38	.10	.10	26			
27	.11	.26	.09	.19	.24	1.54	.11	.06	NO FLOW	.38	.10	.14	27			
28	.12	.14	.02	.17	.28	1.21	.08	.04	NO FLOW	.37	.07	.07	28			
29	.11	.17	.00	.17	.28	.54	.05	.05	NO FLOW	.31	.02	.05	29			
30	.12	.13	.10	.17	.28	.43	.13		NO FLOW	.28	.01	.05	30			
31	.13	.15		.17		.36	.14		.02		.02		31			
MEAN	.3	.4	.2	2.5	2.0	13.4	.5	.3	0	1.3	1.0	.4	MEAN			
MAX.	.4	1.4	.3	59.5	21.0	143.4	1.7	.7	.3	2.4	1.8	5.4	MAX.			
MIN.	.2	.3	0	.1	.3	.7	.1	.1	0	.1	0	0	MIN.			
ACFT	17.0	27.3	14.6	152.7	121.0	626.5	33.1	16.2	1.6	77.6	64.5	23.0	ACFT			

## WATERMASTER YEAR SUMMARY

MEAN DISCHARGE	MAXIMUM					MINIMUM					TOTAL ACRE-FEET
	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	
1.86	452.91	3.95	10	24	1219	0	0	9	28	1204	1375.10

# APPENDIX A (continued)

STATION: RUBIO DRAIN											STATION NO. 75220		WATERMASTER YEAR 1971-72	
MEAN DAILY DISCHARGE in second-feet														
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY	
1	.06	.04	.05	.05	.05	.01	.02	.07	.05	.05	.05	.06	1	
2	.05	.05	.04	.06	.06	.08	.03	.06	.06	.03	.05	.05	2	
3	.04	.07	.07	.05	.06	.06	.03	.05	.04	.04	.05	.05	3	
4	.05	.07	.07	.06	.05	.04	.06	.04	.04	.04	.05	.05	4	
5	.07	.07	.07	.05	.05	.01	.05	.06	.04	.05	.04	.05	5	
6	.06	.07	.05	.07	.06	.02	.06	.05	.04	.05	.05	.05	6	
7	.06	.06	.05	.07	.06	.00	.05	.05	.03	.04	.04	.09	7	
8	.06	.07	.06	.07	.06	.03	.05	.06	.04	.05	.05	.08	8	
9	.04	.05	.05	.08	.05	.02	.05	.05	.04	.04	.07	.05	9	
10	.04	.06	.06	.07	.06	.05	.06	.05	.04	.05	.09	.04	10	
11	.05	.06	.06	.07	.06	.07	.06	.05	.04	.05	.10	.04	11	
12	.05	.06	.05	.06	.17	.06	.05	.06	.04	.05	.10	.04	12	
13	.06	.05	.06	.06	.05	.07	.06	.05	.04	.04	.10	.04	13	
14	.05	.06	.07	.06	.05	.06	.06	.05	.04	.05	.09	.04	14	
15	.05	.08	.06	.07	.05	.06	.06	.05	.04	.05	.11	.04	15	
16	.05	.06	.05	.10	.05	.07	.05	.05	.04	.04	.08	.06	16	
17	.06	.06	.05	.05	.05	.08	.05	.05	.04	.04	.08	.06	17	
18	.04	.06	.06	.05	.05	.08	.05	.05	.04	.05	.08	.05	18	
19	.04	.06	.05	.05	.05	.07	.05	.05	.03	.09	.08	.05	19	
20	.05	.05	.05	.05	.04	.07	.05	.05	.04	.04	.04	.06	20	
21	.04	.04	.08	.05	.04	.06	.05	.04	.04	.04	.04	.06	21	
22	.03	.04	.08	.05	.04	.31	.05	.05	.05	.05	.04	.07	22	
23	.04	.04	.06	.05	.04	.06	.05	.05	.05	.04	.05	.05	23	
24	.03	.03	.06	.10	.05	.65	.06	.05	.04	.05	.04	.06	24	
25	.03	.04	.07	.06	.03	.34	.07	.05	.05	.05	.04	.05	25	
26	.04	.03	.06	.06	.02	.11	.08	.05	.04	.05	.05	.06	26	
27	.04	.03	.05	.06	.02	.39	.06	.06	.04	.06	.05	.06	27	
28	.04	.03	.06	.05	.01	.18	.06	.06	.04	.05	.05	.06	28	
29	.04	.05	.05	.04	.02	.04	.07	.06	.04	.05	.05	.06	29	
30	.04	.03	.05	.05	.01	.03	.05		.04	.05	.05	.06	30	
31	.05	.04		.04		.03	.06		.04		.05		31	
MEAN	1.0	1.1	1.3	1.6	1.6	12.8	1.2	1.1	.9	1.4	1.4	1.4	MEAN	
MAX.	1.5	1.6	1.8	6.6	20.8	158.6	1.8	1.5	1.3	11.7	2.8	8.9	MAX.	
MIN.	.7	.6	1.0	.4	.1	.1	.4	.9	.7	.7	.8	.8	MIN.	
ACFT	63.0	68.4	77.4	97.1	96.6	788.2	72.3	65.5	54.1	80.3	84.7	65.0	ACFT	

## WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
2.23	703.15	1.42	12	24	1221	0	0	8	21	752	1632.60

STATION: SECO DRAIN										STATION NO. 62150		WATERMASTER YEAR 1971-72	
MEAN DAILY DISCHARGE in second-feet													
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.01	.02	.07	.05	.11	.10	.07	.06	.03	.02	.03	.03	1
2	.02	.04	.04	.06	.11	.09	.07	.04	.03	.03	.02	.03	2
3	.01	.05	.04	.05	.11	.00	.06	.03	.03	.04	.01	.02	3
4	.00	.05	.04	.05	.11	.00	.04	.03	.03	.05	.01	.03	4
5	.00	.05	.07	.05	.11	.02	.04	.02	.05	.05	.01	.04	5
6	.01	.05	.06	.02	.11	.02	.04	.02	.05	.05	.01	.04	6
7	.01	.06	.06	.02	.11	.02	.04	.02	.04	.05	.01	.06	7
8	.01	.06	.06	.01	.10	.02	.04	.03	.05	.05	.01	.03	8
9	.02	.06	.06	.02	.10	.02	.05	.02	.06	.05	.01	.02	9
10	.03	.06	.06	.02	.10	.02	.06	.01	.04	.05	.02	.03	10
11	.02	.06	.06	.02	.10	.02	.06	.01	.03	.05	.01	.03	11
12	.03	.05	.06	.02	.17	.02	.06	.01	.03	.04	.01	.02	12
13	.04	.05	.06	.02	.16	.02	.06	.01	.02	.04	.02	.02	13
14	.04	.05	.06	.03	.16	.02	.07	.01	.03	.04	.02	.02	14
15	.04	.05	.06	.03	.16	.02	.07	.01	.03	.03	.02	.03	15
16	.03	.05	.06	.04	.16	.02	.05	.02	.05	.03	.03	.03	16
17	.03	.05	.06	.03	.16	.02	.05	.01	.06	.03	.03	.03	17
18	.02	.05	.06	.05	.16	.02	.06	.01	.04	.04	.02	.03	18
19	.03	.05	.06	.05	.16	.02	.06	.01	.04	.06	.01	.04	19
20	.02	.05	.06	.05	.16	.02	.05	.01	.04	.04	.01	.04	20
21	.03	.05	.06	.05	.14	.02	.05	.02	.04	.05	.01	.04	21
22	.03	.06	.05	.05	.16	.21	.05	.02	.03	.05	.02	.04	22
23	.04	.05	.05	.05	.16	.06	.05	.03	.03	.05	.02	.03	23
24	.04	.05	.05	.13	.16	.47	.05	.03	.03	.05	.02	.03	24
25	.05	.06	.05	.13	.16	.16	.05	.01	.03	.04	.03	.02	25
26	.05	.07	.05	.12	.16	.07	.05	.01	.03	.04	.02	.03	26
27	.04	.07	.05	.12	.16	.32	.05	.02	.03	.05	.02	.02	27
28	.03	.06	.05	.11	.16	.17	.05	.03	.03	.05	.02	.02	28
29	.03	.06	.05	.12	.16	.10	.05	.03	.02	.05	.02	.03	29
30	.03	.08	.05	.12	.15	.08	.05		.02	.05	.03	.02	30
31	.03	.06		.11		.08	.05		.02		.04		31
MEAN	.4	.8	1.0	1.3	4.8	3.8	.8	.3	.5	.6	.3	.5	MEAN
MAX.	.7	1.5	2.0	5.7	7.0	39.6	1.3	.8	1.0	1.9	.5	3.7	MAX.
MIN.	0	.3	.7	.2	2.5	0	.6	.1	.3	.3	.1	.2	MIN.
ACFT	22.6	51.3	58.6	82.3	285.2	234.4	48.6	19.1	30.1	38.1	15.7	29.4	ACFT

## WATERMASTER YEAR SUMMARY

MEAN	MAXIMUM					MINIMUM					TOTAL
DISCHARGE	DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET
1.26	161.52	1.21	12	24	1221	0	0	7	3	24	915.40



# APPENDIX A (continued)

STATION: WEST ALTAONA										STATION NO. 42985		WATERMASTER YEAR 1971-72	
MEAN DAILY DISCHARGE in second-feet													
DAY	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	DAY
1	.01	.01	.01	.01	.00	.01	.01	.02	.00	.04	.02	.01	1
2	.05	.02	.01	.01	.06	.03	.01	.01	.00	.03	.02	.02	2
3	.02	.05	.01	.02	.00	.02	.01	.00	.01	.03	.02	.03	3
4	.02	.04	.01	.02	.00	.01	.04	.00	.01	.04	.02	.02	4
5	.02	.05	.01	.02	.00	.00	.02	.01	.01	.04	.02	.03	5
6	.01	.05	.01	.02	.00	.00	.03	.00	.01	.04	.03	.02	6
7	.01	.04	.01	.03	.00	.00	.03	.00	.01	.04	.04	.03	7
8	.00	.04	.01	.01	.00	.00	.01	.00	.01	.02	.03	.03	8
9	.00	.03	.01	.02	.00	.00	.02	.00	.00	.00	.02	.02	9
10	.01	.04	.01	.02	.00	.00	.02	.00	.00	NO FLOW	.01	.01	10
11	.01	.04	.01	.02	.02	.00	.02	.01	.01	.00	.02	.01	11
12	.00	.04	.01	.01	.05	.01	.03	.00	.01	NO FLOW	.02	.01	12
13	.01	.04	.01	.01	.00	.02	.04	.00	.01	NO FLOW	.02	.01	13
14	.04	.03	.02	.04	.00	.00	.03	.00	.00	.00	.02	.02	14
15	.05	.04	.02	.03	.00	.00	.04	.00	.01	.01	.02	.01	15
16	.05	.02	.01	.02	.00	.00	.05	.00	.01	.00	.02	.01	16
17	.04	.02	.01	.03	.00	.00	.04	.00	.02	NO FLOW	.01	.01	17
18	.05	.02	.01	.02	.00	.00	.04	.00	.02	.02	.01	.02	18
19	.04	.01	.00	.02	.02	.00	.03	.00	.02	.02	.03	.03	19
20	.04	.03	.00	.02	.00	.00	.04	.00	.01	.01	.01	.05	20
21	.05	.03	.01	.02	.00	.02	.03	.00	.01	.01	.01	.05	21
22	.02	.03	.00	.02	.00	.14	.03	.00	.02	.01	.01	.04	22
23	.00	.03	.01	.02	.00	.03	.05	.00	.01	.00	.01	.02	23
24	.01	.02	.01	.08	.00	.14	.05	.00	.02	.01	.01	.03	24
25	.00	.03	.00	.01	.00	.14	.04	.00	.01	NO FLOW	.01	.01	25
26	.01	.02	.01	.01	.00	.03	.02	.00	.02	.01	.02	.01	26
27	.02	.03	.01	.01	.00	.20	.01	.00	.03	.01	.03	.03	27
28	.02	.02	.00	.02	.00	.04	.04	.00	.01	.01	.02	.04	28
29	.02	.03	.01	.00	.01	.04	.04	.00	.00	.01	.03	.03	29
30	.05	.03	.01	.00	.00	.02	.03		.03	.01	.02	.02	30
31	.01	.02		.01		.01	.04		.03		.02		31
MEAN	.4	.5	.1	.4	.1	1.6	.5	0	.2	.2	.3	.4	MEAN
MAX.	.8	.9	.3	4.2	1.1	17.8	.8	.2	.5	.6	.6	.8	MAX.
MIN.	0	.2	0	0	0	0	.1	0	0	0	.1	.1	MIN.
ACFT	21.4	24.7	4.5	24.5	7.0	96.0	24.8	2.1	11.5	13.3	17.9	21.4	ACFT

## WATERMASTER YEAR SUMMARY

MEAN		MAXIMUM					MINIMUM					TOTAL	
DISCHARGE		DISCHARGE	GAGE HT	MO	DAY	TIME	DISCHARGE	GAGE HT	MO	DAY	TIME	ACRE-FEET	
.34		42.26	1.04	12	24	1200	0	0	7	1	0	282.50	

APPENDIX B

GROUND WATER EXTRACTION DATA  
FOR INDIVIDUAL WELLS

# APPENDIX B: GROUND WATER EXTRACTION DATA FOR INDIVIDUAL WELLS - In acre-feet

STATE WELL NUMBER	OWNER'S DESIGN- NATION	PRODUCTION												TOTAL
		1971						1972						
		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
WESTERN UNIT (MONK HILL BASIN)														
LA CANADA IRRIGATION DISTRICT														
IN/12W-06W055	MAYN1	0	4.80	6.36	1.75	0	0	0	.72	0	.36	1.25	0	15.24
IN/12W-01J015	MAYN4	0	0	.17	0	0	0	0	.50	0	0	0	0	.67
TOTALS		0	4.80	6.53	1.75	0	0	0	1.22	0	.36	1.25	0	15.91
LAS FLORES WATER COMPANY														
IN/12W-08W025	2	24.12	17.01	32.74	30.24	23.19	14.69	20.54	24.61	20.73	2.41	9.95	56.96	277.19
LINCOLN AVENUE WATER COMPANY														
IN/12W-05W015	3	86.50	66.85	59.75	34.82	54.97	44.80	9.33	6.80	13.29	8.34	15.01	11.83	412.09
IN/12W-05W025	2	12.51*	18.81	9.26	7.70	10.54	1.20	.65	1.12	.60	.62	.47	1.85	65.37
IN/12W-05W025	5	0	0	0	64.94	46.64	37.76	5.98	.96	8.30	12.64	2.61	8.82	193.65
TOTALS		99.01	85.66	69.01	112.46	112.19	83.76	15.96	8.88	22.19	21.60	18.09	22.50	671.11
PASADENA CEMETERY ASSOCIATION														
IN/12W-05G015	4	4.76	3.65	3.69	2.13	1.10	.53	.47	.90	1.49	1.43	2.21	2.39	24.75
IN/12W-09E015	2-3	10.34	9.45	10.81	7.82	2.21	.43	0	3.15	7.60	5.72	10.65	12.08	80.30
TOTALS		15.14	13.10	14.50	9.95	3.31	.96	.47	4.05	9.09	7.15	12.86	14.47	105.05
PASADENA CITY OF														
IN/12W-05W015	ARROY	317.93	311.15	291.12	256.52	0	196.34	0	235.11	323.61	291.46	307.37	278.34	2809.05
IN/12W-05W015	VENTU	0	0	0	0	0	0	0	0	0	67.94	92.86	33.38	194.23
IN/12W-08W025	WINDSR	115.63	120.40	111.08	85.78	123.17	104.01	121.34	118.48	57.23	111.52	112.95	96.45	1282.54
TOTALS		433.56	432.05	402.20	342.30	123.17	304.40	121.34	353.59	380.84	470.97	513.18	408.22	4285.82
PUBLIC CANYON LAND AND WATER ASSN														
IN/12W-08W015	5	138.91	178.44	147.46	114.29	70.13	68.03	3.73	10.25	23.04	80.71	10.70	2.32	848.10
IN/12W-08W035	4	0	0	10.88	0	0	.63	23.35	0	66.91	11.46	0	0	113.23
IN/12W-09W015	6	10.73	9.32	7.83	1.12	13.06	0	11.20	.85	15.81	0	18.52	0	88.44
IN/12W-09W015	2	12.46	15.48	12.53	16.56	0	11.48	0	12.74	0	17.35	.85	18.84	118.29
TOTALS		162.10	203.28	178.70	131.97	83.19	80.14	38.28	23.84	105.81	109.52	30.07	21.16	1168.06
VALLEY WATER COMPANY														
IN/12W-06W015	3	.62	0	0	0	0	0	0	0	0	0	0	0	.62
IN/12W-06W045	2	100.28	85.13	64.79	62.90	25.26	26.60	32.44	1.03	7.35	25.39	9.97	19.50	462.64
IN/12W-06W065	1	0	27.66	74.88	21.24	22.03	1.09	12.42	48.64	5.17	0	28.25	21.43	262.81
IN/12W-06W095	4	23.57	57.03	4.88	0	11.35	.14	6.61	25.56	4.69	0	13.63	11.42	158.88
TOTALS		124.47	169.82	144.55	84.14	58.64	27.83	51.47	77.23	17.21	25.39	51.85	52.35	884.95
(PASADENA SUBAREA)														
ALHAMBRA CITY OF														
IN/12W-34E015	2	46.32	89.30	82.84	78.54	72.63	72.55	69.31	43.72	48.20	0	42.87	75.15	761.47
IN/12W-34E045	6	19.85	14.98	6.31	0	0	0	0	20.43	16.92	30.64	19.70	11.83	140.66
TOTALS		106.17	104.28	89.15	78.54	72.63	72.55	69.31	64.15	65.12	30.64	62.57	86.98	902.13
ARCADIA CITY OF														
IN/11W-29W015	WCHBA	0	.02	0	0	0	.11	.10	.03	.01	0	0	0	.27
IN/11W-30R015	RCMOA	94.48	12.04	.23	30.00	6.51	.18	.26	.20	.18	.15	65.20	28.78	238.26
IN/11W-30R035	WPEID	16.78	149.94	185.10	132.21	.41	.44	.62	.32	.39	91.78	156.97	166.30	941.30
TOTALS		111.26	202.05	185.33	162.21	6.92	.77	.98	.55	.58	91.93	222.17	195.08	1179.83
CALIFORNIA-AMERICAN WATER CO														
IN/12W-25E015	1921H	38.80	65.19	55.39	47.78	20.79	2.50	8.49	10.52	25.57	31.93	30.46	37.98	375.40
IN/12W-26A015	1924	69.08	48.84	18.71	27.22	2.29	.55	2.79	7.28	2.97	4.04	6.21	5.87	195.85
IN/12W-26R015	1924	55.44	67.71	47.17	50.93	33.67	7.11	14.64	27.45	48.00	46.65	43.77	38.23	480.97
IN/12W-34C015	1923	27.65	16.85	17.16	18.94	14.32	4.69	6.57	16.83	20.76	12.93	19.84	15.14	191.68
IN/12W-34E025	1921A	48.17	48.73	28.99	17.74	.74	4.99	.50	.45	6.98	17.87	17.23	26.80	219.21
IN/12W-35R015	1917	115.99	117.53	110.06	104.12	90.57	21.71	86.28	106.49	92.10	61.16	56.95*	58.11*	1026.07
TOTALS		355.13	364.85	277.48	271.73	162.40	41.55	119.47	169.02	196.38	174.58	174.46	182.13	2489.18
CANYON MUTUAL WATER COMPANY														
IN/12W-13K015	WILCX	4.11	10.24	6.24	5.22	3.86	.71	1.70	.32	0	1.64	1.12	2.72	37.88

# APPENDIX B: (Continued)

STATE WELL NUMBER	OWNERS DESIG- NATION	PRODUCTION												TOTAL
		1971						1972						
		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
EAST PASADENA WATER COMPANY														
1N/11W-30J015	7	33.10	33.20	19.86	14.54	.19	.14	2.24	3.46	4.69	12.26	19.92	18.75	162.33
1N/11W-30K015	8	42.22	42.64	27.21	34.96	8.41	2.49	3.90	9.78	14.75	22.46	25.06	23.94	259.82
1N/11W-30O035	1	1.21	3.65	1.45	.04	.05	.07	0	.04	.06	.04	.71	.24	7.56
TOTALS		76.53	79.49	50.50	49.54	8.65	2.70	6.14	13.28	19.50	34.76	45.69	42.93	429.71
M E HUNTINGTON LIMPAW AND ART GALL														
1N/12W-34H015	CANYN	5.46	3.51	1.48	1.88	2.76	1.55	2.10	0	2.66	2.16	2.36	2.42	28.34
1N/12W-35C015	ORLDO	53.89	73.42	24.52	30.19	11.18	2.54	4.03	9.17	27.76	34.24	50.06	37.50	358.50
TOTALS		59.35	76.93	26.00	32.07	13.94	4.09	6.13	9.17	30.42	36.40	52.42	39.92	386.84
KINNIFLOA IRRIGATION DISTRICT														
1N/12W-13E035	3	19.60	24.31	21.63	15.89	8.69	1.71	.85	4.04	8.77	11.68	14.24	14.63	146.04
1N/12W-13L015	WGNEH	.26	.37	.19	.16	.08	.07	.03	.13	.20	.21	.19	.11	2.00
TOTALS		19.86	24.68	21.82	16.05	8.77	1.78	.88	4.17	8.97	11.89	14.43	14.74	148.04
MIHA LOMA MUTUAL WATER COMPANY														
1N/11W-07N015	GLEW	6.00	3.83	3.88	3.38	.97	0	.30	2.00	2.64	4.28	4.83	4.85	36.96
1N/11W-07N025	BROWN	8.28	5.46	4.37	3.06	1.26	0	0	.10	2.01	1.37	3.14	3.30	32.35
1N/11W-18C015	SHAW	0	1.02	1.81	1.14	1.27	.75	0	1.77	1.96	1.47	1.81	1.46	14.46
TOTALS		14.28	10.31	10.06	7.58	3.50	.75	.30	3.87	6.61	7.12	9.78	9.61	83.77
MUNROVIA CITY OF														
1N/11W-30H015	CHAPA	111.03	110.42	107.87	53.55	7.52	9.57	7.62	7.46	15.12	37.78	104.84	108.53	681.31
OSBORN CONSTRUCTIONS														
1N/12W-13H015	FARPT	3.86	4.77	3.35	3.25	1.45	1.07	1.12	1.65	2.31	3.29	2.50	2.61	30.83
PASADENA CITY OF														
1N/11W-30D045	NCHAP	142.33	248.44	240.03	262.08	240.03	252.96	251.38	109.97	0	0	0	139.48	1886.70
1N/12W-20A015	SUNST	171.97	167.50	133.66	177.57	123.84	0	0	0	0	0	0	11.47	736.01
1N/12W-20R015	CPRO3	56.09	195.75	152.65	58.74	0	0	0	0	0	0	0	6.73	469.96
1N/12W-21K015	GARFD	118.69	201.85	121.66	31.69	57.77	0	78.60	15.43	2.57	0	0	90.40	718.66
1N/12W-21K025	VILLA	236.26	315.01	277.57	142.36	253.24	68.83	264.00	161.89	26.44	0	102.42	215.61	2013.63
1N/12W-23G015	CRAIG	0	0	0	0	0	138.85	165.17	87.16	25.74	0	0	116.18	533.04
1N/12W-25R015	JODAN	245.06	291.44	267.15	120.93	0	0	0	0	0	0	0	40.07	1014.65
1N/12W-26C015	WDBRY	208.82	261.07	169.94	89.27	169.27	99.52	130.50	101.93	3.64	41.17	63.83	0	1338.96
1N/12W-33G025	OHIO5	0	0	0	0	0	0	0	0	9.43	8.84	0	0	18.27
TOTALS		1229.22	1681.06	1312.66	832.64	844.15	560.16	889.65	476.32	67.82	50.01	166.25	619.94	8729.88
ROYAL LAUNDRY AND DRY CLEANING CO														
1N/12W-28H015	SWELL	12.11	12.82	12.63	12.33	12.32	13.56	1.00	25.29	14.59	13.08	13.50	15.01	158.24
SAN GABRIEL COUNTY WATER DISTRICT														
1N/12W-36F015	VH004	0	0	1.96	0	0	0	0	0	0	0	0	0	1.96
1N/12W-36F025	VH003	121.85	110.98	98.64	103.31	112.00	113.98	115.43	4.66	5.96	71.21	124.78	87.95	1070.75
TOTALS		121.85	110.98	100.60	103.31	112.00	113.98	115.43	4.66	5.96	71.21	124.78	87.95	1072.71
SUNNY SLOPE WATER COMPANY														
1N/12W-36A015	6	59.65	130.73	36.44	.92	.28	1.34	.39	.74	0	0	6.92	73.47	310.88
1N/12W-36H015	1	71.43	73.40	63.64	53.11	38.63	1.35	.12	16.04	31.16	25.60	.02	.14	374.69
1N/12W-36H025	3	44.42	65.79	67.74	53.58	14.35	.57	.22	.36	.33	27.91	8.07	9.83	343.17
TOTALS		225.50	269.92	167.82	107.61	53.26	3.26	.73	17.19	31.49	53.51	15.01	83.44	1028.74
EASTERN UNIT (SANTA ANITA SUBAREA)														
ARCADIA CITY OF														
1N/11W-21G025	OG01A	220.06	207.95	194.18	192.10	138.01	.48	.70	2.09	0	46.73	213.07	70.09	1285.46
1N/11W-21G055	OG005	125.41	118.37	93.19	.12	46.20	.33	.43	.22	.26	33.64	102.06	7.65	527.84
1N/11W-21H025	OG02A	205.91	197.72	178.40	176.88	161.04	.35	.76	1.78	5.84	85.21	173.35	39.33	1226.57
1N/11W-21H035	OG006	103.81	66.02	19.71	78.49	50.07	.22	.48	.23	.25	.24	70.85	5.02	395.39
TOTALS		655.19	590.02	485.48	447.59	345.32	1.38	2.37	4.32	6.35	165.82	559.33	122.09	3435.26
SIERRA MADRE CITY OF														
1N/11W-21C025	4	0	24.80	103.56	0	71.36	0	0	0	103.32	0	71.56	89.35	467.95
1N/11W-21C035	3	168.75	127.20	12.95	114.46	22.13	89.19	4.28	3.99	65.80	100.40	40.10	10.90	760.15
1N/11W-21C065	5	125.28	114.63	134.44	0	1.76	0	82.43	3.62	0	102.30	33.16	9.72	617.34
1N/11W-21C075	6	0	40.39	5.79	82.31	29.92	0	0	125.53	8.84	.51	96.05	124.06	513.40
TOTALS		294.03	316.02	261.74	196.77	175.17	89.19	86.71	133.14	177.66	203.21	240.87	234.03	2358.84
GRAND TOTALS														
		4257.88	4843.96	3965.98	3092.84	2235.55	1425.85	1557.60	1427.98	1205.05	1624.27	2446.97	2423.37	30561.28











